Culture, Conditions and Paradoxical Frames

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Abstract

Organizational contexts establish conditions that seem paradoxical, but it is unclear when and why individuals notice and respond to paradoxes. This paper examines how culture and conditions interact to shape whether individuals adopt paradoxical frames. We used cooperation and competition among American and Chinese people as an empirical setting. Using lay categories as a theoretical framework, we predicted that specific types of conditions, colleagues' outperforming and out-helping each other, can be interpreted as instances of both cooperation and competition. Study 1 found that Chinese people were more likely than Americans to adopt paradoxical frames in just these types of conditions and that the cross-cultural difference was attributed to differences in paradox mindset. Study 2 found that in just these types of conditions, Chinese people were more likely to engage in simultaneously cooperative and competitive behavior and this was attributed to differences in the use of paradoxical frames. Thus, culture and conditions interact to influence when people invoke and apply paradoxical frames.

Introduction

Organizational life is rife with paradoxical tension (Schad, Lewis, Raisch, & Smith, 2016). Organizational contexts can create conditions—systems, structures, and practices—that individuals

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perceive as contradictory. For example, individuals often experience paradoxes when organizational innovation indicates they should explore and exploit (Andriopoulos & Lewis, 2009, 2010) or when organizational change indicates they should lead and follow (Luscher & Lewis, 2008). While organizational contexts provide the potential for paradoxes to emerge, this potential is only realized when individuals subjectively experience paradox (Smith & Lewis, 2011). Individuals are theorized to experience paradoxes when they encode situations using paradoxical frames—mental representations incorporating both of two opposing possibilities (Smith & Tushman, 2005). Experimental work indicates that individuals prompted to use paradoxical frames behave differently than those who are not prompted (Miron-Spektor, Gino, & Argote, 2011). However, we know less about when and why individuals themselves spontaneously adopt paradoxical frames.

Individuals might use paradoxical frames because of conditions in the environment or because of beliefs shaped by culture (Clegg, da Cunha, & e Cunha, 2002; Johnston & Selsky, 2006; Lewis, 2000; Luscher, Lewis, & Ingram, 2006). For example, efforts to innovate might prompt one manager to think of a project as creative and profitable (a paradoxical frame), while another manager might think of a project as creative but not profitable (a non-paradoxical frame; Andriopoulos & Lewis, 2009). The managers' different views could be due to different conditions, such as whether their organizational structures integrated creative and profitable elements of projects. Or, their different views could be due to cultural differences, such as beliefs about whether a project can be creative and profitable. How conditions, culture, and paradoxes interrelate matters both theoretically and practically, because it can guide managers' efforts to manage paradoxes (Luscher & Lewis, 2008). The account of paradox presented here includes roles for both conditions and culture in predicting when and why individuals adopt paradoxical frames. We expect paradoxes to guide behavior when conditions are ripe and cultures are encouraging, giving individuals both the opportunity and the proclivity to apply paradoxical frames.

By providing an account of when individuals use paradoxical frames and how this shapes their behavior, we make two contributions to organizational paradox research. First, we extend work on how paradoxical frames affect behavior (e.g., Miron-Spektor et al., 2011) by providing a theoretical account and empirical tests of when and why individuals adopt paradoxical frames in organizational settings. Second, we answer calls for greater insights into the role of culture in paradoxes (Smith & Lewis, 2011) by incorporating the contingent influence of culture on individual behavior (Nouri, Erez, Lee, Liang, Bannister, & Chiu, 2015).

A Lay Category-based Account of Paradoxical Framing

The account of paradoxical frames we develop builds on two ideas: humans interpret the world by assimilating aspects of experience into lay categories (Murphy, 2002); and culture shapes this assimilation process (see Xiao & Tsui, 2007). Individuals typically assimilate conditions into categories when the conditions they experience exhibit features that are central to a category (Murphy, 2002). The lay categories individuals use are primarily socially constructed as members of cultural groups exchange words to interpret their shared experience (Loewenstein, Ocasio, & Jones, 2012). This allows lay categories to serve as mediators of culture's role in shaping individuals' interpretations of the material world (Keller & Loewenstein, 2011). For example, a red circle on a white rectangle could be interpreted as a "Japanese flag". The category of "Japanese flag" is a social construction. Only people with sufficient cultural knowledge can recognize that an image indicates a Japanese flag. However, only a narrow set of images exhibit features that indicate the "Japanese flag" category, and thus the categorization of an image as a Japanese flag involves both social construction (the Japanese flag category) and material conditions (certain colors and shapes in certain configurations). Similarly, whether someone interprets an activity as indicating

"exploration" depends on both the culture having formed that category and the conditions present in the situation having the potential to be interpreted as an example of the category.

To connect the discussion of categories and the discussion of paradox, we provide a specification of paradoxical frames using lay categories. Individuals use paradoxical frames when they encode contradictory yet interrelated elements within conditions (Smith & Lewis, 2011). As we have noted, individuals categorize situations based on whether the conditions indicate features that are central to a category (Chin-Parker & Ross, 2004). We add that conditions could simultaneously indicate features of multiple categories, such as a strategic issue indicating both an opportunity and a threat (Jackson & Dutton, 1988). Critically, conditions could indicate features of two categories that are viewed as antonyms (Paradis & Willners, 2011). For example, if individuals perceive conditions as indicating features of both exploration and exploitation, then the two categories would appear interrelated because they apply to the same conditions. If individuals also believe exploration is an antonym of exploitation, then it follows that categorizing the conditions as both exploratory and exploitative would appear contradictory. Categorizing conditions using both of two opposing categories is therefore one specification of what it means to use a paradoxical frame.

Conditions alone are no guarantee of adopting a paradoxical frame. Using a paradoxical frame requires individuals to classify conditions into both of two opposing categories. Alternatively, individuals could categorize the conditions into one of the opposing categories and not the other, and so not use a paradoxical frame. Therefore, using paradoxical frames is a function of both what features the particular conditions indicate and what beliefs individuals bring to bear to encode those conditions.

The beliefs individuals bring to bear are likely shaped by culture. Individuals are likely to form beliefs that conditions can be classified into both of two opposing categories if they have a chronic tendency to adopt a paradox mindset—a general orientation towards embracing contradictions (Andriopoulos & Lewis, 2010). Culture can encourage or discourage the tendency to adopt a paradox mindset. Multiple scholars have argued that the use of paradox mindsets differs between western cultures (e.g., the USA and Germany) and eastern cultures (e.g., China and Japan). Traditional western philosophy emphasizes separating paradoxical elements, whereas traditional eastern philosophy emphasizes integrating paradoxical elements (e.g., Chen, 2002, 2008; Fang, 2012; Li, 1998). These philosophies are embedded in contrasting cultural narratives (Peng, Spencer-Rodgers, & Zhong, 2006). Eastern but not western narratives emphasize that because the world is constantly changing, contradictions should be embraced and integrated (Peng & Nisbett, 1999). Individuals with eastern cultural backgrounds tend to have paradox mindsets and so tend to use paradoxical frames. In contrast, individuals with western cultural backgrounds tend not to have paradox mindsets. They tend not to use paradoxical frames to encode conditions but instead tend to use an "either/or" perspective and categorize conditions using one category rather than both of two opposing categories.

This work on culture and paradox indicates a role for culture in fostering paradox mindsets, which in turn likely shapes whether individuals use paradoxical frames. However, cultural tendencies supporting or hindering paradox mindsets do not explain why individuals adopt paradoxical frames in some conditions and not others. A paradox mindset on its own might predict that members of some cultures use paradoxical frames with some probability, irrespective of the conditions they face. Yet paradoxes emerge disproportionately in specific conditions (Jarvenpaa & Lang, 2005). The account of paradoxical frames developed here, based on lay categories, leads to predicting that cultural differences occur when conditions provide an opportunity for individuals with paradox mindsets to apply a paradoxical frame because the conditions indicate features of both of two opposing categories.

Overview of the Studies

To study this account of when and why individuals interpret conditions using paradoxical frames, we focus on the categories of "cooperation" and "competition" and involve participants from China and the USA. Cooperation and competition are fundamental to organizational life (Jones, Couch, & Scott, 1997) and are found across the world (Axelrod, 2006; Price, 2006). They comprise one of the most widely discussed paradoxes in the organizational literature (Smith & Lewis, 2011), especially on the topic of cultural differences (Chen, 2008).

We selected American and Chinese people to examine culture because they represent eastern and western traditions. Cultural psychology research has found that East Asians (including Chinese) tend to categorize conditions using both of two opposing categories (Nisbett, Peng, Choi, & Norenzayan, 2001). Chinese people are also more likely than Americans to tolerate contradictions (Peng et al., 2006; Spencer-Rodgers, Williams, & Peng, 2010b). For example, Chinese people are more likely than Americans to categorize themselves as both shy and outgoing (Spencer-Rodgers, Peng, & Wang, 2010a) and as both happy and sad (Bagozzi, Wong, & Yi, 1999). Chinese people tend to see themselves as both cooperative and competitive (Chen, Xie, & Chang, 2011; Lu, Au, Jiang, Xie, & Yam, 2013). This suggests that Chinese people are more likely than Americans to have a higher inclination to use paradoxical frames.

To examine how culture and conditions interact to influence whether individuals use paradoxical frames, we report two studies. First, in a survey of Chinese and American employees, we examine the conditions that individuals categorize as cooperative and competitive. We predict cross-cultural differences in the use of paradoxical frames, based on differences in paradox mindset, just for conditions indicating features of both cooperation and competition. Second, in an experimental study, we show that cross-cultural differences in using paradoxical frames result in behavioral differences.

Study 1: Cross-Cultural Comparisons in Categorizing Conditions as Cooperative and Competitive

Study 1 examines how culture interacts with conditions to shape whether individuals use paradoxical frames when categorizing conditions as cooperative, competitive or both. Instead of defining "cooperation" and "competition", we examine the lay categories of "cooperation" and "competition" used in everyday communications and whose meanings are shaped by national cultures (Keller & Loewenstein, 2011). The words "cooperation" and "competition" are among the most frequently used words in English (Davies & Gardner, 2013). The counterpart for cooperation in Chinese is 合作 (*hezuo*), which combines words that mean "together" and "working" and the counterpart for competition in Chinese is 竞争 (jingzheng), which combines words that mean "striving" and "getting ahead" (李宗江, 1999). The two words are listed as antonyms in both English (Merriam-Webster, 2006) and Chinese (王喜, 1991). Accordingly, conditions perceived to be both cooperative and competitive would appear paradoxical in both cultures.

To predict the conditions perceived to indicate cooperation and competition, we can consider what features indicate cooperation and competition. Cooperation is typically defined as efforts advancing collective gain (e.g., Tyler & Blader, 2000). Consistent with this definition, "exerting effort on group work," "sharing knowledge to advance group gains," and "aligned goals" are features of conditions that have been validated as indicating cooperation to lay people in both China and the USA (Keller & Loewenstein, 2011). Researchers typically define competition as an effort to gain a relatively higher position or outcome (e.g., Johnson & Johnson, 1989; Kelley & Thibaut, 1978). Research on US samples (Garcia, Tor, & Gonzalez, 2006; Kilduff, Elfenbein, & Staw, 2010)

has shown that "winning" and "social comparison" are features of conditions likely to indicate competition. Similarly, the Chinese words for competition refer to "striving" and "geting ahead". It is therefore likely that lay people will classify conditions as cooperative and competitive when they indicate these central features.

Some conditions provide a basis for applying just one category. For example, *knowledge sharing* is commonly associated with cooperation (Cabrera & Cabrera, 2002). However, knowledge sharing does not exhibit features of competition, such as involving winning or social comparisons. As a second example, *sabotaging* involves one actor gaining relative standing through reducing the performance or resources of others, thus indicating competition. However, sabotaging actually reduces others' gains, and so does not exhibit features of cooperation. Therefore, knowledge sharing and sabotaging are not conditions that are likely to signal both cooperation and competition, but just cooperation (knowledge sharing) or just competition (sabotaging).

Two conditions that might enable the use of paradoxical frames are outperforming and out-helping. *Outperforming* involves individuals attempting to gain a higher relative standing within a group through effort and skill (Stanne, Johnson, & Johnson, 1999). Outperforming indicates competition because it exhibits changes in members' relative standing. In addition, outperforming requires effort on group work, which is a central feature of cooperation in both Chinese and American cultures (Keller & Loewenstein, 2011). Thus, outperforming could indicate features of both cooperation and competition, and so provide a basis for adopting a paradoxical frame.

A second condition to consider is *out-helping*, which involves individuals trying to be the most helpful member of a team or organization (Fülöp & Orosz, 2015). Out-helping involves colleagues helping other colleagues, which often indicates cooperation (e.g., Jones & George, 1998). Out-helping also involves people attempting to attain a higher relative standing, which indicates competition. While not typically addressed in the organizational literature, the idea that individuals compete over who can help more (i.e., "competitive helping") is discussed in evolutionary psychology as a widespread behavior that increases individuals' social standing (Barclay, 2013). Therefore, out-helping could provide conditions that can be categorized as both cooperative and competitive.

It is useful to examine both outperforming and out-helping. Outperforming raises the question of whether conditions usually described as competitive will also have the potential to be interpreted as cooperative. Out-helping raises the question of whether conditions usually described as cooperative will also have the potential to be interpreted as competitive. Testing both allows us to separate a preference for using paradoxical frames from a preference for emphasizing individual outcomes (which might result in a bias towards classifying situations as competitive) or emphasizing group outcomes (which might result in a bias towards classifying situations as cooperative). If a cultural value that emphasizes collective outcomes was the main reason for categorizing conditions as both cooperative and competitive, then we would expect that outperforming would be viewed as both competitive and cooperative, but this would have no bearing on whether out-helping was considered competitive. Or, if a cultural value that emphasizes individual outcomes was the main reason for categorizing conditions as both cooperative and competitive, then we would expect out-helping to be viewed as both cooperative and competitive, but this would have no bearing on whether outperforming was considered competitive. Alternatively, if individuals from China are more likely than individuals from the USA to hold paradox mindsets, then we can expect individuals from China to be more likely to use paradoxical frames for outperforming and out-helping conditions. We can attribute these cultural differences to differences in paradox mindset rather than cultural values because valuing cooperation or competition is separate from acknowledging that both can arise in the same conditions.

In contrast to the cultural difference in using paradoxical frames for outperforming and out-helping, we do not anticipate any cultural differences in categorizing knowledge sharing and sabotaging by individuals from China and the USA. Neither knowledge sharing or sabotaging is likely to provide a basis for invoking both the categories of cooperation and competition. So, for these conditions, paradox mindsets and the use of paradoxical frames are not relevant. Therefore, we predict a moderated-mediation relationship, such that culture (China vs. US), because of greater emphasis on paradox mindsets in China, predicts whether individuals use paradoxical frames when categorizing conditions as cooperative and competitive, but that culture only has an effect for conditions (outperforming and out-helping and not knowledge sharing and sabotaging) indicating features of both cooperation and competition.

Participants

We recruited 205 American and 224 Chinese employees through Sojump in China and Mechanical Turk in the USA. These online platforms have been demonstrated to yield reliable data (for Mechanical Turk, see Buhrmester, Kwang, & Gosling, 2011; for Sojump, see Yang, Liu, Fang, & Hong, 2014). We limited our sample to those who had work experience and were currently employed. Among the Americans, the average age was 37, 53% were women, 80% were Caucasian, 7% were African American, 4% were Hispanic, 8% were Asian American and 1% were undisclosed. Results for Asian Americans were not statistically different from other Americans and thus included in our American sample. Among the Chinese, the average age was 32, 47% were women and 98% were Han Chinese.

Procedure

Participants engaged in an online categorization task. To ensure ecological validity in the types of conditions used for the categorization task across two cultures (see Keller & Loewenstein, 2011), we created items describing conditions that could be described as cooperative and/or competitive using a pilot study involving 40 participants from each culture, including outperforming (4 items, $\alpha_{coop} = .74$, $\alpha_{comp} = .75$), sabotaging (4 items, $\alpha_{coop} = .60$, $\alpha_{comp} = .80$), knowledge sharing (3 items, $\alpha_{coop} = .70$, $\alpha_{comp} = .79$) and out-helping (2 items, $\alpha_{coop} = .64$, $\alpha_{comp} = .69$). All items were presented in Chinese in China and in English in the USA. To ensure that the items had similar meanings and indicated similar conditions in both cultures, we engaged in a coding, translating and back-translating process by three coders not informed about the purposes of the study (Brislin, 1970). We conducted a pilot test with 50 respondents from the back-translated version and 50 respondents from the original version and found no significant differences for any of the measures. A two-group metric invariance analysis (Cheung & Rensvold, 2002) for each of the measures with all 429 participants confirmed that our labels indicated consistently interpretable types of conditions.

Together with the focal items, participants evaluated additional items describing types of conditions that the research literature suggested would be clearly cooperative, clearly competitive, and unrelated to cooperation and competition, so as to anchor the response scales. The full list of items was presented to participants three separate times. Once for whether items indicated cooperation, once for whether items indicated competition, and in between those two assessments for whether items indicated commitment. The presentation of the cooperation and competition categorization tasks and the order of the items within each categorization task were randomized for each participant to mitigate order effects. Participants were asked to rate each item using a five-point scale with "1" indicating "very non-cooperative," "2" indicating "slightly non-cooperative," "3" indicating "neither cooperative nor non-cooperative," "4" indicating "slightly cooperative" and "5"

indicating "very cooperative" for the cooperation task (with "competitive" replacing "cooperative" on the competition task).

Measures

Use of paradoxical frames. Following previous work (e.g., alignment as an indicator of organizational ambidexterity; Gibson & Birkinshaw, 2004), we measured paradoxical frames as the simultaneous endorsement of both cooperation and competition. Each item categorized as both cooperative and competitive was scored as "1" indicating a paradoxical frame, as cooperative and non-competitive or competitive and non-cooperative was scored as "-1" indicating a non-paradoxical frame, and all else was coded as "0." Scores for all items for each condition type were averaged, therefore the use of paradoxical frames scores ranged from -1 to 1 for each condition type.

Paradox mindset. To assess paradox mindset, we used the "paradoxical cognition scale" that included the recognition, comfort and embrace of paradoxes ($\alpha = .83$; Miron-Spektor, Ingram, Keller, Smith, & Lewis, 2014).

Condition type. We distinguished between conditions that have the potential to indicate a paradox (outperforming and out-helping) and those that do not (knowledge sharing and sabotaging).

Control variables. As controls, we measured four cultural values using the vertical-horizontal-individualism-collectivism (VHIC) scale (Triandis & Gelfand, 1998). Horizontal-collectivism entails a general propensity to merge oneself within a group and thus more likely value cooperation (four items, $\alpha = .79$) and vertical-individualism entails a general propensity to want to be better than others in the group and thus value competition (four items, $\alpha = .85$). Horizontal-individualism entails a general propensity to value uniqueness as an individual (four items, $\alpha = .81$), whereas vertical-collectivism entails a general propensity to value deferring to higher status members of a collective (four items, $\alpha = .83$).

Results

Descriptive results and correlations within each of the two samples are presented in Table 1. We first ran a series of one-sample two-tailed *t*-tests against the mid-point of 0 to examine whether the ratings for each type of condition indicated the adoption of paradoxical frames. We also ran a series of one-sample two-tailed *t*-tests against the mid-point of 3 to examine each type of condition specifically as to whether it was perceived to indicate cooperation, competition or both. Consistent with our predictions, the American participants and Chinese participants both categorized knowledge sharing as cooperative ($M_{USA} = 4.73$, $t(205) = 43.23$, $p < .01$; $M_{CHINA} = 4.57$, $t(224) = 43.24$, $p < .01$) and non-competitive ($M_{USA} = 2.27$, $t(205) = 9.23$, $p < .01$; $M_{CHINA} = 2.25$, $t(224) = 3.60$, $p < .01$). In addition, the American participants and Chinese participants both categorized sabotaging as competitive ($M_{USA} = 4.26$, $t(205) = 19.04$, $p < .01$; $M_{CHINA} = 3.82$, $t(234) = 14.93$, $p < .01$) and non-cooperative ($M_{USA} = 1.50$, $t(205) = 30.84$, $p < .01$; $M_{CHINA} = 1.79$, $t(224) = 26.95$, $p < .01$).

Critically, as predicted, the American participants categorized outperforming as competitive ($M_{USA} = 4.33$, $t(205) = 26.12$, $p < .01$) and non-cooperative ($M_{USA} = 2.81$, $t(205) = 3.92$, $p < .01$). The Chinese participants, however, categorized outperforming as both competitive ($M_{CHINA} = 4.03$, $t(224) = 25.83$, $p < .01$) and cooperative ($M_{CHINA} = 3.44$, $t(224) = 12.27$, $p < .01$). Similarly, the American participants categorized out-helping as cooperative ($M_{USA} = 4.17$, $t(205) = 23.51$, $p < .01$) and neither competitive nor non-competitive ($M_{USA} = 3.13$, $t(205) = 1.61$, *ns*). Yet the Chinese

Table 1. Study 1 means, standard deviations, and correlations by culture.

USA		Mean	SD	2	3	4	5	6	7	8	9	10	11
1	Gender (M = 1)	.54	.50	-.13	-.04	-.05	.18*	-.24*	-.07	-.02	.08	.19*	.03
2	Age	37.40	11.28		-.01	.03	-.27*	.07	.03	-.08	-.12	-.03	-.05
3	Paradox mindset	4.22	0.95			.11	.24*	.25*	.19*	.23*	.14*	.12	.30*
4	Horizontal individualism	5.65	.93				.14*	.06	.12	.03	-.08	.02	.06
5	Vertical individualism	3.86	1.36					.17*	.14*	.28*	.22*	.23*	.22*
6	Horizontal collectivism	5.19	1.09						.47*	.16*	.00	-.01	.11
7	Vertical collectivism	5.16	1.16							.14*	.03	.04	.09
8	ParFrame-sharing	-.41	.65								.65*	.27*	.45*
9	ParFrame-sabotaging	-.67	.44									.30*	.23*
10	ParFrame-outperforming	-.15	.50										.22*
11	ParFrame-outhelping	.06	.69										

*p < .05

China		Mean	SD	2	3	4	5	6	7	8	9	10	11
1	Gender (M = 1)	.40	.49	.24*	-.03	-.02	.11	.09	.05	.12	.10	.09	-.02
2	Age	31.68	6.16		-.15*	.10	.01	-.02	.04	.10	.14*	.08	.00
3	Paradox mindset	4.81	.86			.18*	.27*	.31*	.09	.03	-.01	.07	.16*
4	Horizontal individualism	5.63	.96				.40**	.02	.09	.06	.03	-.03	.02
5	Vertical individualism	5.37	.90					.25*	.25*	.14*	.11	.19*	.09
6	Horizontal collectivism	5.45	.83						.50*	.06	.03	.11	.10
7	Vertical collectivism	5.78	.84							.01	.07	.12	.07
8	ParFrame-sharing	-.14	.66								.58*	.27*	.32*
9	ParFrame-sabotaging	-.44	.46									.20*	.13
10	ParFrame-outperforming	.28	.45										.17*
11	ParFrame-outhelping	.39	.64										

*p < .05

ParFrame = Use of paradox frames.

Table 2. Study 1 linear regression results for use of paradoxical frames.

	Parameter estimates (B)	
	Baseline	With condition type
Horizontal individualism	.01	.01
Vertical individualism	.06**	.06**
Horizontal collectivism	.02	.02
Vertical collectivism	.02	.02
Culture (China = 1)	.21**	.14**
Condition type (Paradoxical = 1)		.50**
Culture * Condition type		.13*
R²	.07	.25

*= p < .05, ** = p < .01.

categorized out-helping as both cooperative ($M_{CHINA} = 4.19$, $t(224) = 30.61$, $p < .01$) and competitive ($M_{CHINA} = 3.68$, $t(224) = 10.50$, $p < .01$).

To test for an interaction effect between culture and material condition, we ran a linear regression analysis with the use of paradoxical frames as the dependent variable and vertical-horizontal individualism-collectivism as controls. As displayed in Table 2, we found a main effect for culture ($B = .14$, $p < .01$) and a main effect for condition type ($B = .50$, $p < .01$). More importantly, we found an interaction between culture and condition type ($B = .13$, $p = .02$; Figure 1).

To further explore the connection between national culture and types of conditions, we examined the role of paradox mindset. As predicted, we found that Chinese people exhibited a paradox mindset more strongly than Americans ($M_{USA} = 4.22$, $M_{CHINA} = 4.81$, $t(427) = 6.73$ $p < .01$). To test the full moderated mediation model with culture as the independent variable, paradoxical framing as the dependent variable, paradox mindset as the mediator and condition type as the moderator of the relationship between paradox mindset and paradoxical frame, we used Hayes's (2013) PROCESS procedure (Model 14 with the VHIC measures as covariates). As predicted, the indirect effect of culture through paradox mindset was only reliable for paradoxical conditions (i.e., outperforming and out-helping ($b = 0.04 (0.01)$, $[0.02, 0.07]$)) and not for non-paradoxical conditions (i.e., knowledge sharing and sabotaging ($b = 0.02 (0.01)$, $[-0.01, 0.04]$)). This provides evidence that paradox mindset mediated the effects of culture on using paradoxical frames, but only for condition types indicating features of opposing categories.

To ensure robustness, we also examined the direct effects of cultural values. Vertical-individualism (i.e., valuing competition) had its own direct effect on using paradoxical frames ($b = 0.05 (.01)$, $[0.03, 0.08]$). However, it did not interact with paradox mindset and did not explain the cultural difference in using paradoxical frames within each condition.

Discussion

Culture and conditions both shape when individuals use paradoxical frames. We reasoned that knowledge sharing and sabotaging would not support a cooperation-competition paradoxical frame, regardless of culture, and found, consistent with that argument, that individuals from both cultures categorized knowledge sharing as just cooperative and sabotaging as just competitive. However, we reasoned that the conditions for outperforming and out-helping could indicate both cooperation and competition, and so offer a basis for using paradoxical frames. For these types of conditions, we found that American participants were likely to categorize them as just competitive
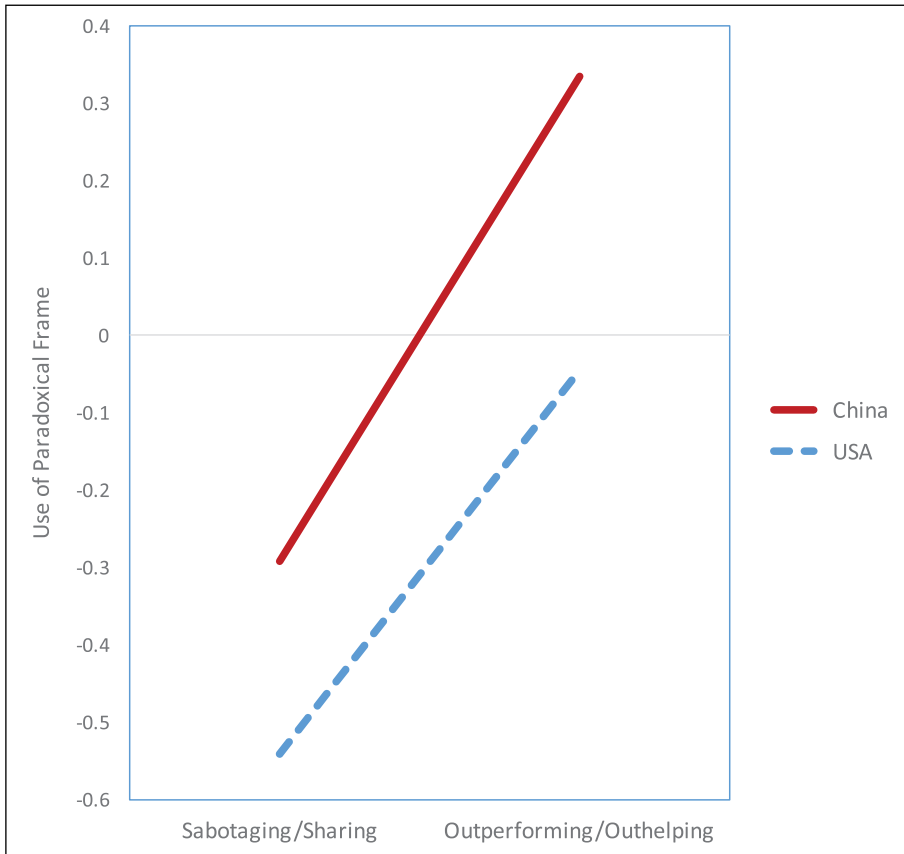
Figure 1. Study 1 interaction of culture and condition type on paradoxical framing.

(outperforming) or just cooperative (out-helping). In contrast, Chinese participants were likely to categorize them as both competitive and cooperative.

For both outperforming and out-helping, we attributed cross-cultural differences in using paradoxical frames to differences in paradox mindset. Outperforming and out-helping appear to be types of conditions that provide an opportunity for using paradoxical frames, and members of cultures that encourage the embrace of paradoxes take that opportunity. Individuals in cultures less supportive of paradox mindsets, as is the case of the USA, are more likely to negate the interrelated aspects of conditions and interpret outperforming and out-helping as non-paradoxical. Therefore, given the moderated mediating role of paradox mindset, our results indicate that the categorization of outperforming and out-helping as both cooperative and competitive are instances of paradoxical frames driven by both culture and conditions.

Study 2: Cross-Cultural Comparisons in Reactions to Outperforming

Study 2 replicates the Study 1 finding of a cultural difference in using paradoxical frames for interpreting outperforming conditions and examines its effects on behavior. We focus on outperforming because if individuals are unwilling to cooperate when others are trying to outperform them, then

potential benefits of cooperation and competition are each less likely to be realized (Luo, Slotegraaf, & Pan, 2006). Further, efforts to drive innovation and change encourage individuals to stand out by exhibiting high performance, yet also encourage them to share knowledge. Thus the aim of Study 2 is to test whether cultural proclivities to use paradoxical frames will predict whether individuals respond with both cooperative and competitive actions rather than just competitive actions when others are attempting to outperform them.

We anticipate that when individuals are in conditions that involve others' attempting to outperform them, Chinese people will be more likely than Americans to respond with high levels of both cooperative and competitive behavior. Categories not only guide how individuals interpret conditions, they also guide behavior (Murphy, 2002). If individuals categorize outperforming as competitive and not cooperative (i.e., they do not use a paradoxical frame), then due to reciprocity (Andersson & Pearson, 1999), they are likely to react with only competitive behaviors. Alternatively, if individuals categorize outperforming as both competitive and cooperative (i.e., they use a paradoxical frame), then they are likely to respond with both competitive and cooperative behaviors. For example, Study 1 found that knowledge sharing was consistently categorized as cooperation. Thus, if Chinese participants are more likely than American participants to use paradoxical frames for outperforming, then they should more likely reciprocate by sharing knowledge because both outperforming and knowledge sharing will be considered instances of cooperation.

We emphasize that we are not predicting a general cross-national difference in cooperative behavior in all conditions. We predict a difference specific to outperforming situations, because those conditions have the potential to be encoded using paradoxical frames. Consistent with this account, we expect that cross-cultural differences in cooperative behavior will be mediated by whether individuals use paradoxical frames to encode outperforming conditions. We further predict a moderating effect such that culture and the use of paradoxical frames for outperforming conditions will only influence cooperative behavior when individuals are in situations with others attempting to outperform them.

To ensure robustness, we also examine two alternative explanations for cross-cultural differences in whether individuals would engage in cooperative behavior when others are trying to outperform them. First, an individual's propensity to engage in both cooperative and competitive behavior may be a product of the motive behind the task (Kerr & Tindale, 2004). Individuals with only a group motive may overlook others' competitive behavior when deciding whether to cooperate. So, we include task motivation conditions to see if motives influence cooperative behavior in response to outperforming. Second, cultural values may also influence whether individuals cooperate with others who try to outperform them. Individuals who are high in horizontal-collectivism may be driven to cooperate regardless of whether others are competing. And individuals who are high in vertical-individualism may be comfortable with others competing with them. Accordingly, we test for these possibilities as well. Still, we predict that individuals who use paradoxical frames to encode outperforming conditions are likely to engage in cooperative behavior when they are confronted by attempts to outperform them, apart from and controlling for both motives and values.

Participants

The study included 227 native-English-speaking graduate and undergraduate students in the USA and 223 native-Chinese-speaking graduate and undergraduate students in China with professional or academic workgroup experience. In both groups, the average age was 21 and 63% were women. Results for Asian Americans were not statistically different from other Americans and thus included in our American sample.

Design

We used a 2 (culture: American and Chinese) x 2 (competing condition: outperforming and baseline) x 3 (motive: group, individual, and mixed) between-subjects design with participants from each cultural group randomly assigned to one of the six condition by motive cells.

Part 1 procedure

The study consisted of two parts, separated by one week. During the first part, we assessed participants' categorization of conditions as cooperative and competitive, as in Study 1, as well as a set of control variables.

Part 2 procedure

During the second part, participants met in groups, engaged in a computer simulation task in which they managed tea sales, and completed a questionnaire. At the start, groups of three engaged in a five-minute group brainstorming session to get to know each other by working together and so feel as if they were part of a team. The rest of the task consisted of a computer-based three-person team simulation task, where they were actually working with computer-simulated teammates. They were seated at computers and given seven minutes to read instructions. The goals listed in the instructions depended on the motive: maximize team total profit (group motive); maximize their own profit (individual motive); or both (mixed motive). Participants were then asked to send messages to their teammates. The response depended on the condition. Participants in the outperforming condition read a message from their (computer-generated) teammates stating that they each wanted to perform better than the others. Participants in the baseline condition read messages stating that they wanted to perform well.

Then participants engaged in the task for 30 minutes. Participants worked with two (computer computer-generated) teammates to manage stands selling tea. Each teammate was to order an optimal number of cups of tea each day for 25 simulated days. Too many ordered cups would incur costs due to waste and too few ordered cups would incur costs due to reduced sales. Participants could observe their own and the simulated teammates' orders and performance. Participants also had the option to forward messages to them with valuable information for generating optimal orders. Each simulated day, one of the three teammates received a message with information that would aid sales and was given the option of forwarding the message—to share knowledge that would improve performance for all those who had the information. For example, a message could include a weather report for the next day. So, participants had eight opportunities to cooperate. To ensure that there were no other aspects of the task reducing cooperation, the simulated teammates forwarded every message and every message was valuable to the participant. In the outperforming condition, participants could see that the teammates were frequently looking at each other's orders and daily performance, and frequently copying the previous day's best performer's orders.

After the simulation task, participants completed a questionnaire measuring their perception of cooperation and competition during the task and other manipulation checks. Data from four participants who declared that the teammates were simulated were dropped from the analysis.

Dependent variable

Cooperative behavior. Cooperative behavior was measured as the number of times (0–8) that participants forwarded messages during the computer simulation. Participants' post-task self-reported

rating of their own level of cooperation (two items, 7-point-scale, α = .67) was correlated with the behavioral measure, $r = .42$, $p < .01$, indicating that the participants were aware of their level of cooperation during the task.

Mediating variable

Use of paradoxical frames for outperforming conditions. We used the same measure as in Study 1 for the categorization of outperforming situations as both cooperative and competitive.

Control variables

VHIC. We used the same variables as used in Study 1.

Demographic variables. Age and gender were included as demographic variables that potentially influence cooperation.

Performance. Participants' profits generated in the simulation task were used as a control for cooperative behavior, as poorly performing participants may have failed to share knowledge for reasons unrelated to our hypotheses. These participants may have been less interested in the task and thus unmotivated to share to help the team perform well or may have been struggling with the task and thus only paying attention to their own performance.

Manipulation check

Confirming the competing condition manipulation, participants in the outperforming condition rated their team members as more competitive than did participants in the baseline condition ($M_{OP} = 5.28$, $M_{BASE} = 4.30$, $t(401) = 10.57$, $p < .01$). In addition, participants in the outperforming condition more often clicked to see one of four reports on their counterparts (previous day totals and cumulative totals for each of the two teammates); $M_{OP} = 80.10$, $M_{BASE} = 63.04$, $t(401) = 3.87$, $p < .01$), indicating greater attention to relative performance. In addition, we checked the manipulation for group motive and found a marginal difference between self-reported cooperation for those with a group motive compared to those with an individual or mixed motive ($M_{GROUP} = 5.40$, $M_{IND+MIX} = 5.18$, $t(401) = 1.65$, $p = .09$). Those in the group motive condition also cooperated more during the task ($M_{GROUP} = 5.15$, $M_{IND+MIX} = 4.30$, $t(406) = 2.96$, $p < .05$). We found no significant difference between the individual and mixed motive condition for either the manipulation check or cooperative behavior and thus collapsed the two conditions for further analysis.

Results

Descriptive statistics and correlations for Study 2 are presented in Table 3.

We predicted that Chinese and Americans would differ in their level of cooperation with team members attempting to outperform them, and that the cultural difference would be mediated by using paradoxical frames for outperforming situations. Accordingly, we ran two sets of analyses. First, we used a Poisson regression to examine how culture (American vs. Chinese) crossed with competing condition (outperforming vs. baseline) as well as motive condition (group vs. individual/mixed) predicted cooperative behavior. Means for cooperative behavior in each culture and in each team and motive condition are presented in Table 4.

Table 3. Study 2 means, standard deviations, and correlations by culture.

USA.	Mean	SD	2	3	4	5	6	7	8	9
1 Gender (M = 1)	.64	.48	.13	−.05	−.00	−.16*	−.04	−.04	−.03	.13
2 Age	21.06	1.73		−.05	−.03	−.01	−.07	.01	.05	.03
3 Horizontal individualism	5.42	.98			−.04	.12	.26*	.00	.07	−.08
4 Vertical individualism	4.59	1.18				.04	.03	.06	.10	.07
5 Horizontal collectivism	5.38	.85					.43*	.08	.01	.25*
6 Vertical collectivism	5.33	1.02						.11	.14	.07
7 Performance (*100)	62.55	7.65							.10	.20*
8 ParFrame-outperforming	−.34	0.48								.16*
9 Cooperative behavior	4.06	2.77								
* p < .05										

China.	Mean	SD	2	3	4	5	6	7	8	9
1 Gender (M = 1)	.63	.48	−.11	−.02	.07	.17*	.02	−.07	.14*	.03
2 Age	20.94	1.84		−.02	−.02	−.08	−.10	−.24*	−.05	−.02
3 Horizontal individualism	5.17	.99			.03	.02	.13	.00	.18*	.05
4 Vertical individualism	4.88	1.01				.04	.03	.06	.22*	.07
5 Horizontal collectivism	4.81	.90					.43*	.08	.25*	.03
6 Vertical collectivism	5.53	.95						.11	.14*	.07
7 Performance (*100)	64.07	5.19							.01	.08
8 ParFrame-outperforming	.21	.43								−.01
9 Cooperative behavior	5.15	2.81								
* p < .05										

ParFrame = use of paradox frames.

Table 4. Study 2 mean (SD) cooperative behavior by competing and motive condition.

USA.

Competing condition	Motive condition		
	Group	Group & Individual	Individual
Outperforming	4.00 (2.44)	3.03 (2.23)	3.28 (2.61)
Baseline	4.89 (2.71)	4.63 (2.99)	4.67(2.83)

China.

Competing condition	Motive condition		
	Group	Group & Individual	Individual
Outperforming	5.53 (2.56)	4.66 (2.83)	4.83 (3.07)
Baseline	5.33 (2.36)	4.89 (2.81)	5.03 (3.11)

Results of the Poisson regression are presented in Table 5. Model 1 includes only the culture condition, Model 2 includes the competing condition (outperforming or baseline) and the

Table 5. Study 2 Poisson Regression Results for Cooperative Behavior.

	Parameter estimates (*B*)		
	Baseline	With team condition	With motive condition
Age	.01	.00	.00
Gender (F)	.08	.08	.08
Horizontal-collectivism	.06*	.05	.05
Horizontal-individualism	.03	.03	.02
Vertical-collectivism	.05	.04	.05
Vertical-individualism	−.03	−.03	−.03
Performance	.00**	.00**	.00**
Culture (China)	.20**	.46**	.50**
Team condition		−.13*	.13
Group motive condition			.22*
Culture*Outperform condition		.41**	.35*
Culture*Group motive condition			.09
Outperform condition*Group motive condition			.02
Culture*Outpeform condition* Group motive condition			.09
Likelihood ratio Chi-square	45.31**	61.21**	72.97**

Fisher Test * = *p* < .05, ** = *p* < .01.

interaction with culture. Model 3 includes the motive condition (group or individual/mixed) and the resulting two- and three-way interactions with competing condition and culture. As expected, we found a reliable culture by competing condition interaction. In the baseline condition, the Chinese (*M* = 5.18) and the Americans (*M* = 4.66) cooperated by sharing knowledge at similar rates (*t* = 1.33, *p* = *ns*). But in the outperforming condition, the Chinese (*M* = 5.12) cooperated more often than the Americans (*M* = 3.48; *t* = 4.27, *p* < .01).

The culture by competing condition interaction held across motive conditions. There was a simple main effect of motive condition: participants assigned a group motive (*M* = 5.12) shared knowledge more often than those assigned either a mixed-motive (*M* = 4.22; *p* < .05) or an individual motive (*M* = 4.41; *p* < .05). However, the motive condition did not interact with culture or competing condition in influencing cooperative behavior, demonstrating the robustness of the competing condition regardless of participants' motives.

The second set of analyses used Hayes's (2013) PROCESS procedure (Model 18) for testing for moderated mediation with cooperative behavior as the dependent variable, culture (China vs. US) as the independent variable, use of paradoxical frames in categorizing outperforming conditions as the mediator, competing condition as the moderator of the relationship between paradoxical frames and cooperative behavior, group motive condition as the moderator of the competing condition moderator, and gender, age, performance, and the four VHIC variables as covariates.

First, replicating Study 1, Chinese people were more likely than Americans to use paradoxical frames and categorize outperforming as both cooperative and competitive. Specifically, the Chinese participants categorized outperforming as both competitive (M_{CHINA} = 4.29, *t*(222) = 42.96, *p* < .01) and cooperative (M_{CHINA} = 3.23, *t*(222) = 6.49, *p* < .01). In contrast, the American participants categorized outperforming as competitive (M_{USA} = 4.56, t(205) = 47.40, *p* < .01) and non-cooperative (M_{USA} = 2.41, *t*(205) = 12.25, *p* < .01). Thus, the PROCESS analysis found a relationship

between culture and the use of paradoxical frames for outperforming conditions ($b = 0.57$, SE = 0.05, [0.47,0.67], $p < .05$).

Critically, the paradoxical frame by competing condition interaction predicted cooperative behavior ($b = 1.49$, SE = 0.62, [0.28, 2.70], $p < .05$). Participants who categorized outperforming situations as both cooperative and competitive tended to engage in more cooperative behavior in conditions where others were attempting to outperform them but there was no difference in the baseline conditions. Paradoxical frames only influenced cooperative behavior when the competing condition made paradoxical frames relevant.

The indirect effect of culture through using paradoxical frames on cooperative behavior was also only reliable in the outperforming condition, and this indirect effect held across motive conditions. The indirect effect was significant in the outperforming condition regardless of whether there was an individual or mixed motive ($b = 0.62$, SE = 0.27, [0.09, 1.21], $p < .05$) or whether there was a group motive ($b = 0.83$, SE = 0.36, [0.18, 1.60], $p < .05$). Culture and paradoxical frames were only relevant for the outperforming condition. Their interaction had no effect in the baseline condition, regardless of whether there was an individual or mixed motive ($b = –0.23$, SE = 0.26, [–0.78, 0.25], $p = ns$) or whether there was a group motive ($b = 0.08$, SE = 0.32, [–0.49, 0.79], $p = ns$). Therefore, we found evidence for moderated mediation such that culture, mediated by the use of paradoxical frames for outperforming conditions, predicted individuals' cooperative behavior just when others were attempting to outperform them. These effects were not contingent on motive. Moreover, we did not find clear support for cultural values predicting cooperative behavior.

Discussion

Study 2 provided evidence that culture and conditions interact to predict when individuals will use paradoxical frames and that those frames guide behavior. Chinese people were more likely than Americans to use paradoxical frames for outperforming conditions. And Chinese people were more likely than Americans to react to others attempting to outperform them by engaging in high levels of cooperative behavior. Absent others attempting to outperform them though, there was no difference in cooperative behavior and no role for using paradoxical frames. Thus, there are predictable types of conditions that provide opportunities for using paradoxical frames, predictable types of cultural proclivities for adopting paradoxical frames, and conditions and culture jointly shape individuals' behavior.

Study 2 also showed that motives and cultural values were unrelated to adopting paradoxical frames and cooperating in response to outperforming. We found main effects for having a group motive and for being high in horizontal-collectivism on rates of cooperative behavior. However, these two factors did not influence when people adopted paradoxical frames and applied them to guide their cooperative behavior. Thus, the results suggest that having a group motive and valuing cooperation are key concerns relevant to cooperative behavior, but are insufficient for explaining cooperative and competitive paradoxes and resulting behavior.

General Discussion

Two studies examined how and when individuals adopt paradoxical frames, and found evidence that individuals are most likely to do so when culture and conditions interact. Study 1 found that Chinese people were more likely than Americans to use paradoxical frames for conditions with key features of boh of two opposing categories. The cultural effects on using paradoxical frames were attributed to greater awareness embrace of paradoxes, and the cultural effects were only present for

types of conditions, outperforming and out-helping, that indicate features of both cooperation and competition. Study 2 found that individuals from China were more likely than Americans to engage in cooperative behavior when others were outperforming them, but equally likely to cooperate otherwise. This conditional cultural effect on cooperative behavior was attributed to using paradoxical frames for outperforming conditions. Thus, culture provides a general approach to paradoxes while conditions provide the opportunity to use paradoxical frames.

By providing a theoretical model and an empirical account of the link between culture, conditions and paradoxical frames, our results contribute to research on paradoxes in organizations in three critical ways. First, a growing body of literature recognizes that paradoxes in organizations do not simply appear, but that individuals interpret conditions as paradoxical (e.g., Clegg et al., 2002; Smith & Lewis, 2011). We provide an empirical account and theoretical explanation of when and why individuals are likely to perceive specific conditions as paradoxical, based on lay categories. Paradoxes may be common in organizational life but individuals do not always use paradoxical frames to interpret conditions (Sharma & Good, 2013). Cultural support for integrating paradoxes increases the likelihood that individuals will use paradoxical frames, but is not a specific claim about how individuals will interpret specific conditions. The effect of culture hinges on the situational conditions (Nouri et al., 2015). Conditions create opportunities for using paradoxical frames, and specific, predictable conditions create opportunities that can be identified through analysis, as the current studies demonstrated. Thus, we open up further opportunities for research on who is more likely to use paradoxical frames and when they are likely to use paradoxical frames.

A second contribution is advancing our understanding of the cooperation and competition paradox. Our research builds on previous studies that have found that how individuals approach this paradox is contingent on culture (Fülöp, Roland-Levy, Ya, & Berkics, 2006). The paradoxical tension between cooperation and competition operates at the level of individuals and organizations. So, examining the role of culture and conditions in how individuals experience and respond to cooperation and competition provides a link between theories of culture, structure and paradox at the organizational level and paradoxical frames and behavior at the individual level.

Paradoxical tensions between cooperation and competition are particularly important in the contexts of innovation and change in organizations. Research on paradox in the context of innovation has typically focused on the organization-wide issue of managing exploration and exploitation (e.g., Andriopoulos & Lewis, 2009), with an emphasis on either the role of conditions that separate employees engaged in different aspects of innovation (e.g., Benner & Tushman, 2003; O'Reilly & Tushman, 2008) or the role of organizational culture that binds employees together (e.g., Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008). Our results suggest that structural aspects of innovation (e.g., combining exploratory and exploitative activities into one unit) may interact with culture in guiding the use of paradoxical frames and associated behavior. We identified specific conditions—outperforming and out-helping—that provide an opportunity for culture to play a role. The context of organizational change also creates paradoxical tensions for individuals within organizations (Luscher & Lewis, 2008), with cooperation and competition being particularly salient (Molinsky, 1999). Organizational change requires individuals to be team players by working with others through the change process while also requiring individuals to demonstrate high levels of performance (Casey, 1999). The current studies indicate that culture and conditions are likely to interact to shape the use of paradoxical frames and behavior in these situations. Future research can examine behavior that manifests over longer periods of time or behaviors in other contexts that involve cooperation and competition, such as in firm-to-firm relations (see Bouncken, Gast, Kraus, & Bogers, 2015 for a review).

A third contribution is to use lay categories to connect conditions, culture and paradoxical frames. This offers a generally applicable theoretical approach for paradox research beyond

cooperation and competition. We used lay categories to provide one specification for what a paradoxical frame is: the simultaneous classification of conditions into both of two opposing categories, such as considering outperforming and out-helping to be instances of both competition and cooperation. Further research could apply the lay categories approach to other paradoxes by identifying types of conditions that could be considered instances of, for example, both exploration and exploitation or both leading and following.

The lay categories approach is useful because there are existing bodies of research on how people classify conditions into lay categories and how culture generates and distributes lay categories. Thus, the lay categories approach provides a new way to integrate paradox research with general accounts of culture and cognition (e.g., Loewenstein, Ocasio, & Jones, 2012; Ocasio, Loewenstein, & Nigam, 2015). Our approach can apply to other paradoxical issues at the individual-level, such as the relationship between novelty and usefulness in creativity (Loewenstein & Mueller, 2016). While previous research has found that individuals who frame a task as requiring both novelty and usefulness have an increase in creative behavior (Miron-Spektor et al., 2011), our results suggest that the interplay between conditions and culture may influence whether individuals apply a paradoxical frame in their creative pursuits, which will have an impact on creative behavior.

The current studies also have managerial implications. Discussions on managing paradoxes have noted that structure (e.g., Tushman & O'Reilly, 1996), practice (e.g., Andriopoulos & Lewis, 2009), culture (Ravasi & Schultz, 2006; Wang & Rafiq, 2014), and cognition (e.g., Smith & Tushman, 2005) each play a role in shaping responses to organizational paradoxes. Our work puts these different factors together into one model and so leads to the suggestion that the outcomes of efforts to manage paradoxes are contingent on multiple factors. For example, we predict that organizational structures and practices that emphasize integration are most likely to lead to integrative behavioral outcomes when they create conditions indicating both of two opposing categories (e.g., incentivizing exploitation and exploration within the same unit) and when the culture encourages the use of paradoxical frames.

The current studies examined national culture to illustrate a cultural effect, but organizational culture provides an alternative source of cultural influence and one that managers can shape. For example, managers might draw attention to cultural artefacts that emphasize and embrace paradoxes and make these artefacts part of their organization's cultural repertoire (Rindova, Dalpiaz, & Ravasi, 2011; Weber & Dacin, 2009). Organizationally-deployed cultural artefacts may prime employees to adopt specific paradoxical frames, such as an organization's emphasis on "friendly competitions" (Weir, 2011). A mix of cultural artefacts indicating paradoxical frames for different paradoxes could then generate a meta-level paradoxical mindset (Lewis & Smith, 2014), making it more likely that individuals use paradoxical frames in multiple contexts. For example, an organization that deploys seemingly contradictory values (e.g., formal and informal) could encourage employees to develop paradoxical mindsets that then provide a basis for integrating other paradoxical issues such as stability and change or novelty and usefulness.

In addition to deploying cultural artefacts, managers can also shape approaches to paradox within their organizations through employee recruitment. Given that the propensity to use paradoxical frames is shaped by societal cultures, managerial efforts at encouraging or discouraging demographic diversity could influence behavioral outcomes associated with paradoxes. For cooperation and competition in particular, the effects of cultural diversity for multinational organizations is a particularly salient example, as subsidiary relations involve both cooperation and competition (Luo, 2005). How multinationals manage these relations may depend both on conditions that encourage cross-national "coopetition" and members from cultures supporting such paradoxical arrangements.

Limitations and conclusions

As in all empirical work on organizations, our studies had limitations that could be addressed in future research. One limitation is the scope of our samples. Future research can examine paradoxical framing in other societal contexts, as well as organizational cultural influences or cultures at other levels of analyses. Future research can also further delve into predictors of using paradoxical frames within each community. Variance between both individuals and organizations could play a role in using paradoxical frames and shaping behavior. Another limitation is the scope of the studies themselves. For example, future research can examine out-helping situations. Future research could examine further tensions, such as harmony and confrontation (e.g., Tjosvold, Hui, & Law, 2001). Future research could also further examine the influence of paradox mindset distinct from using a particular paradoxical frame. Finally, while we examined both paradoxical frames and behavioral outcomes, there are additional downstream effects to explore. For example, using paradoxical frames might advance or hinder performance. Experiencing tension upon encountering paradoxes might also advance or hinder performance. The moderating factors here are well worth examining.

In conclusion, the way individuals experience paradoxes appears to be influenced by both material conditions and cultural tendencies. The interaction between conditions indicative of a paradox and cultural proclivities for using paradoxical frames best predicted when individuals used paradoxical frames and how individuals behaved. To invoke a paradoxical frame at a meta-level (Lewis & Smith, 2014), our answer to the ontological debate over whether paradox arises from culture or from conditions (Smith & Lewis, 2011, p. 385) is yes, it arises from both.

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