Culture and group-based emotions: could group-based emotions be dialectical?

Minjie Lu, Takeshi Hamamura, Bertjan Doosje, Satoko Suzuki & Kosuke Takemura

Published online: 25 May 2016.

Submit your article to this journal ⬚

Article views: 624

View related articles ⬚

View Crossmark data ⬚

Citing articles: 4 View citing articles ⬚

Routledge
Taylor & Francis Group

Check for updates

Culture and group-based emotions: could group-based emotions be dialectical?

Minjie Lu[a], Takeshi Hamamura[b], Bertjan Doosje[c], Satoko Suzuki[d] and Kosuke Takemura[e]

[a]Department of Psychology, The Chinese University of Hong Kong, Hong Kong SAR, The People's Republic of China; [b]School of Psychology and Speech Pathology, Curtin University, Perth, Australia; [c]Department of Social Psychology, University of Amsterdam, Amsterdam, The Netherlands; [d]Graduate School of Management, Kyoto University, Kyoto, Japan; [e]Faculty of Economics, Shiga University, Hikone, Japan

ABSTRACT

Group-based emotions are experienced when individuals are engaged in emotion-provoking events that implicate the in-group. This research examines the complexity of group-based emotions, specifically a concurrence of positive and negative emotions, focusing on the role of dialecticism, or a set of folk beliefs prevalent in Asian cultures that views nature and objects as constantly changing, inherently contradictory, and fundamentally interconnected. Study 1 found that dialecticism is positively associated with the complexity of Chinese participants' group-based emotions after reading a scenario depicting a positive intergroup experience. Study 2 found that Chinese participants experienced more complex group-based emotions compared with Dutch participants in an intergroup situation and that this cultural difference was mediated by dialecticism. Study 3 manipulated dialecticism and confirmed its causal effect on complex group-based emotions. These studies also suggested the role of a balanced appraisal of an intergroup situation as a mediating factor.

The term "group-based emotion" refers to emotions that arise when people identify with a social group and respond emotionally to events that impinge on the group (Smith & Mackie, 2008). For example, following a victory in a championship match, fans of a football team will feel proud and happy on behalf of the team in the absence of a direct experience playing in the match, whereas casual viewers of the match would not experience these emotions as the team's success does not impinge their social identity. Group-based emotions afford a novel approach to intergroup research given the privileged association between emotions and actions – group-based emotions play a key role in directing and regulating intergroup behaviours and attitudes (Fischer & Manstead, 2008; Mackie, Devos, & Smith, 2000; Smith, 1993). For example, negative group-based emotions (e.g. anger and disgust) felt towards an out-group decreases one's willingness for intergroup contact (Esses & Dovidio, 2002) whereas positive group-based emotions (e.g. grateful) are predictive of reduced prejudice (Miller, Smith, & Mackie, 2004).

One important question in group-based emotion research that has hitherto not been examined is the potential role of culture in shaping group-based emotions. At the level of individual emotions, cultural influence has been extensively examined in affecting emotional complexity (Goetz, Spencer-Rodgers, & Peng, 2008; Mesquita & Leu, 2007). Research has indicated that there is a more frequent concurrence of positive and negative emotional experience among individuals in East Asian cultures relative to Western cultures (Schimmack, Oishi, & Diener, 2002). For example, when getting a good grade in an exam, individuals in East Asian cultures may be more likely to feel happy well as fearful and troubled compared to individuals in Western cultures. The current research

examines cultural influence on complexity of group-based emotions.

Group-based emotions

Group-based emotions are distinct from emotions experienced personally (individual emotions) in a variety of ways. In a series of studies designed to examine this issue, Smith and colleagues (2007) asked participants to rate to what extent they felt a list of emotions as an individual and also as a member of a specific social group (e.g. their university or political party). Their findings indicated the divergence between the two sets of emotion ratings as well as the differences in their antecedences and consequences. Firstly, group-based emotions, but not individual emotions, were positively correlated with the participants' identification with a specific social group, suggesting the role of group identification in determining the intensity of group-based emotions. In particular, individuals with stronger (weaker) in-group identification tended to experience stronger (weaker) group-based emotions (Iyer & Leach, 2008; Gordijn, Yzerbyt, Wigboldus, & Dumont, 2006; Smith, Seger, & Mackie, 2007).

The difference between group-based and individual emotions can be illuminated further by considering the appraisal processes that give rise to group-based emotions. It is postulated that with in-group identification, an intergroup situation is appraised from the perspective of one's own group's interest rather than from one's own personal concerns, and such group-based appraisals give rise to group-based emotions (Rydell et al., 2008; Smith, 1993). For example, thinking about a negative group-relevant event (e.g. a reminder of a history of transgression) induced the individual's sense of guilt felt on behalf of the group, among the individuals not personally involved in the event (Doosje, Branscombe, Spears, & Manstead, 1998). Similarly, participants' group-based anger induced by a newspaper report of an event that was not fair to the in-group was better predicted by group-based appraisals than by individual appraisals (Kuppens et al., 2013).

Finally, group-based emotions differ from individual emotions in their functions. Smith and colleagues (2007) found that only group-based emotions were correlated with intergroup attitudes and group-relevant action tendencies (e.g. negative emotions towards the out-group predicts an inclination to confront the out-group).

Culture and group-based emotions: the role of dialecticism

In considering how culture may affect group-based emotions, we draw on the literature of the cultural difference in dialecticism. Dialecticism refers to a set of folk beliefs prevalent in East Asia that views nature and objects as constantly changing, inherently contradictory, and fundamentally interconnected (Peng & Nisbett, 1999). Dialecticism is often contrasted with a characteristic of Western folk epistemology that focuses on "linear" thinking and the belief that contradictions need to be resolved (Festinger, 1957; Heider, 1958; Lewin, 1951; Peng & Nisbett, 1999). Various studies have found that emotional complexity is more prevalent among participants from East Asian cultures than those from Western cultures, and it has been theorised that dialecticism gives rise to the cultural difference in emotional complexity (Hui, Fok, & Bond, 2009; Miyamoto, Uchida, & Ellsworth, 2010; Schimmack et al., 2002; Shiota, Campos, Gonzaga, Keltner, & Peng, 2010). Demonstrating the underlying role of dialecticism, Spencer-Rodgers and colleagues (Spencer-Rodgers, Peng, & Wang, 2010) found that an experimental induction of dialectical thinking enhanced the level of emotional complexity. Interestingly, research also suggests that the association between dialecticism and emotional complexity is more salient in a positive situation (e.g. a high grade in a test) than in a negative one (e.g. unsuccessful job interview) (Hui et al., 2009; Leu et al., 2010; Miyamoto et al., 2010). This asymmetry has been interpreted as follows: whereas looking for negative implications in a positive event is reflective of dialectical thinking, looking for positive implications in a negative event is not, as this is something many individuals, regardless of their tendency towards dialecticism, may engage in order to alleviate their negative feelings (Miyamoto et al., 2010). Stated differently, while emotional complexity demonstrated in a positive emotional event may reflect dialectical thinking, this is not the case with a negative event.

Although group-based emotions are distinct processes from individual emotions (Smith et al., 2007), these previous findings suggest the possibility that group-based emotions may be more balanced in dialectical cultures than in non-dialectical cultures particularly in a positive intergroup context. To the extent that dialecticism is indeed associated with complex group-based emotions, the current research

examines the mechanism. We propose two possible pathways: (1) dialecticism may affect an appraisal of a group-relevant situation which in turn affects group-based emotions and (2) dialecticism may affect individuals' in-group identification which in turn affects group-based emotions. The following sections consider these possibilities in detail.

Dialecticism may affect group-based emotions via its effect on appraisal processes

Dialecticism may be associated with complex group-based emotions through its association with a balanced appraisal of group-relevant situations. A balanced appraisal at individual level, readily attending to both positive and negative aspects of an emotion-soliciting situation, is a key characteristic of the individual-level emotional complexity found in dialectical culture (e.g. Hui et al., 2009; Leu et al., 2010; Shiota et al., 2010). The current research examines whether such a pattern extends to an appraisal of group-relevant situations – whether dialectical individuals will interpret an intergroup situation from both positive and negative perspectives based on the in-group goals and interests (e.g. positive as well as negative implications of the ongoing intergroup event for the in-group). Such a balanced appraisal may give rise to the concurrence of positive and negative emotions experienced on behalf of their own group.

Dialecticism may affect group-based emotions via its effect on in-group identification

Dialecticism may also influence group-based emotions through its effect in weakening individuals' identification with the in-group. This idea has some support in the literature, though the findings remain ambiguous. On the one hand, the dialectical thinkers' tendency to perceive all things as dynamic and fluid may lead to their representation of in-group identification to be dynamic and fluid (Ji, Nisbett, & Peng, 2001; Spencer-Rodgers, Williams, & Peng, 2010, 2012) as opposed to maintaining stable identification. Indeed, there is some evidence that dialecticism is associated with in-group derogation. Ma-Kellams and colleagues (2011) demonstrated that dialectical participants (participants with Asian cultural backgrounds, or with dialectical-thinking priming) tend to evaluate the in-group more ambivalently, associating more negative characteristics with the in-group compared to non-dialectical participants. A malleable perception of group identity and (relatively) balanced in-group attitudes may be indicative of

weak in-group identification and may entail less self-relevant appraisal of an intergroup event – and, hence, weaker and less polarised group-based emotions.

On the other hand, while dialecticism may influence one's processing of conflicting information and changes, it may not affect their group identification. This idea draws from the literature review that concluded that the effect of dialecticism is not general and is specific to particular domains/processes (Spencer-Rodgers, Williams, et al., 2010). Accordingly, the malleable perception of group membership and balanced in-group attitudes associated with dialectical thinking may simply reflect different ways in which the group-relevant information is processed among dialectical thinkers and may not be associated with a weak sense of connection or identification with the in-group. In sum, the literature is currently ambiguous regarding the association between dialecticism and in-group identification. The studies reported below also examine this issue.

The current research

The current research examines the three questions summarised in Figure 1. Our primary question is whether dialecticism is associated with complex group-based emotions (Question 1). Based on prior research, we predict this pattern for a positive intergroup context. To the extent that there is such an association, we examine two possible mechanisms: that the effect of dialecticism on complex group-based emotions is carried through its association with weaker in-group identification (Question 2), and through its association with the balanced-appraisal of a group-relevant situation (Question 3).

Study 1 examines these issues among participants in China. Study 2 examines the effect of dialecticism with a cross-cultural comparison of Chinese and Dutch participants. Study 3 experimentally manipulates the participants' dialectical thinking in order to test the causal relations.

Study 1

Method

Participants

An on-line survey described below was given to a pool of participants maintained by an on-line survey company. One hundred and eight Chinese
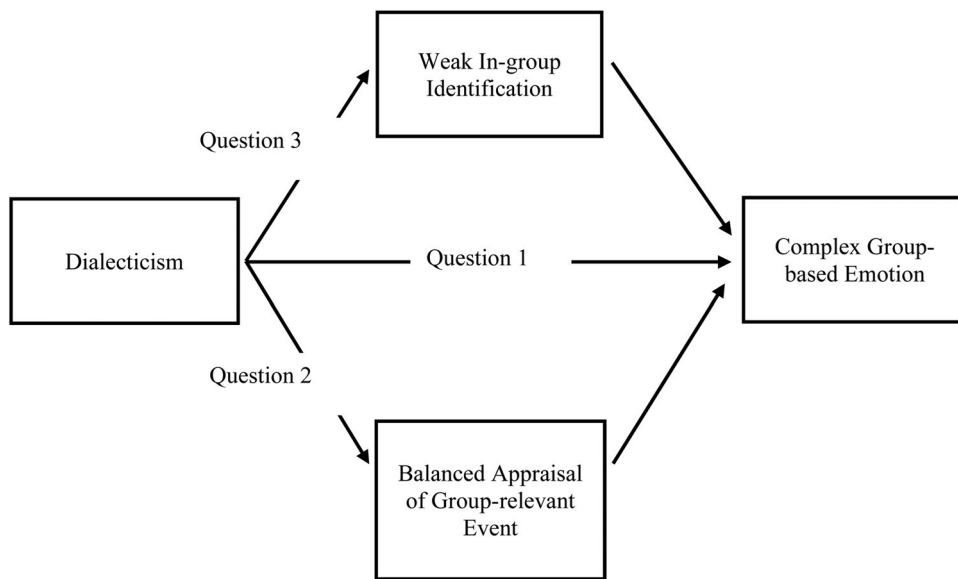
Figure 1. Summary of research questions.

nationals (48% females, $M_{Age} = 30.3$, SD = 6.2) completed the survey. The participants were recruited from 22 provinces in China (e.g. 22.4% from Guangdong, 13.9% from Jiangsu, 8.3% from Shandong). The participants' educational attainment was as follows: 2.8% with high school education, 11.2% with college-level education, 78.7% with university-level education, and 7.4% with postgraduate-level education. The participants received a monetary reward for their participation[1].

Measures and procedure
The study was conducted in Chinese. All measures, except that for dialecticism where there is a commonly used Chinese translation (Spencer-Rodgers et al., 2016), were translated into Chinese checked with back-translated versions. Instructions and intergroup scenarios were prepared in Chinese. The participants completed the measures and procedure as described below.

In-group identification. A measure previously used by Roccas and colleagues (2010) was used. Four items in this measure were "Being Chinese is an important part of my identity", "I am a typical Chinese", "'Chinese' describes my identity", and "When I talk about Chinese, I usually say 'we' rather than 'they'." Items were internally consistent (alpha = .841). Responses were indicated on a 7-point scale (from 1

= *strongly disagree* to 7 = *strongly agree*). Item order was randomised.

Dialecticism. The participants then completed the 14-item Chinese version of the Dialectical Self Scale (Spencer-Rodgers et al., 2016; alpha = .624; sample item is "My world is full of contradictions that cannot be solved"). Responses were indicated on a 7-point scale (from 1 = *strongly disagree* to 7 = *strongly agree*). Item order was randomised.

Intergroup scenarios. After completing these measures, an interview script was introduced to the participants as adapted from a local newspaper. Participants were randomly assigned to either praising or insulting script, in which some foreign tourists either praised or insulted the values and actions of Chinese people, respectively. The scripts were adopted from previous studies on intergroup emotions (Maitner, Mackie, & Smith, 2006; Rydell et al., 2008). In the praising interview, international tourists commented on positive aspects about Chinese, such as "Chinese are nice and friendly", "When they know we are foreign tourists, they are always welcoming and show willingness to talk to us and help us." and "People here are altruistic and warm-hearted." The interview concluded with statements like "We greatly enjoyed our trip to China" and "We have nothing but respect for Chinese people and the values they hold as a society." In contrast, in the

insulting interview, foreign tourists mentioned several negative aspects about Chinese, such as "Chinese are rude and unfriendly", and "People here are selfish and cold-hearted." etc. The conclusive statements were "We did not enjoy our trip to China at all", and "We have very little respect for Chinese people and the values they hold as a society", etc. The praising and the insulting interviews were approximately equal in length and touched on similar topics.

To check whether participants interpreted the scenario as intended, after reading the interview script, the participants responded to the following question: "In your opinion, the foreign tourists in this interview probably have what type of opinion about people in your country and your country as a nation", ranging from 1 (*very negative*) to 7 (*very positive*) (Maitner et al., 2006; Rydell et al., 2008).

Emotions. Next, the participants indicated emotions towards the interview. The same set of emotions was rated twice, indicating their group-based emotions and individual emotions. In the analyses, the association between dialecticism and group-based emotional complexity was examined after controlling for individual emotional complexity, as detailed below. The list of emotions were adopted from past research in the area (Kuppens & Yzerbyt, 2014; Kuppens et al., 2013) and consisted of 10 positive emotions (alpha = .919 for group-based emotions, and alpha = .919 for individual emotions): happy, satisfied, pleased, honoured, calm, proud, enthusiastic, hopeful, excited, relaxed, and sympathy; and 10 negative emotions (alphas > . 910): angry, sad, irritated, humiliated, fearful, shamed, embarrassed, guilty, worried, disappointed, and contempt. Ratings were made on a 5-point scale (from 1 = *not at all* to 5 = *extreme*). To measure group-based emotions, the participants provided the emotion ratings following the instruction "After reading the interview, as a Chinese, I feel ___." For individual emotions, the participants provided the emotion ratings following the instruction "After reading the interview, as a unique individual, I feel." These instructions follow previous research (Smith et al., 2007). The order of emotional labels within the positive scale and negative scale was fixed, but the order of the two instructions was randomised.

Group-based appraisal. Finally, participants' appraisal of the intergroup event was measured. We focused on whether the situation was appraised as beneficial and favourable (versus unbeneficial and

unfavourable) to their group based on a theory of appraisal that focuses on the role of perceived goal congruence in determining emotion valence (Smith & Lazarus, 1993). Eight items were written, consisting of four items on favourable perceptions (alpha = .72) and four items on unfavourable perceptions (alpha = .82). The four favourable items were "I think the event helps to improve us", "I think it will bring advantages to my people and my country", "I think we can learn from those comments in the interview", and "I think it leads to improving ourselves." The four unfavourable items were "I interpret this event as negative", "I think this event will bring disadvantages to my people and my country", "I don't agree with the comments in the interview, because they don't apply to my people and country", and "I think it makes no sense to us." To ensure participants reported their appraisals on behalf of their group, each item started with "After reading the interview, as a Chinese, I … ". Participants responded to these items on a 5-point scale (from 1 = not at all to 5 = extreme). Item order was randomised.

Results

Manipulation check

As anticipated, participants thoughts that the tourists in the insulting interview held a less positive opinion than in the praising one, $t(106) = 18.081$, $p < .001$.

Calculation of emotional complexity and balanced group-based appraisal

To calculate the emotional complexity, we used the Negative Acceleration Model (Scott, 1966), following the previous research on dialecticism (Spencer-Rodgers, Peng, et al., 2010). Emotional complexity was computed by the formula $([2 \times C] + 1)/(C + D + 2)$, where C is the mean rating on the conflicting response and D is the mean rating on the dominant reaction. A higher score, resulting from a low intensity of the dominant response and/or a high intensity of the conflicting response, indicates greater complexity[2]. Although the praising and insulting interviews were generally interpreted as implicating the ingroup positively and negatively, respectively (see Table 1), this pattern did not apply to all of the participants – a few participants (5% in Study 1, and 3% in Study 3) perceived that the tourists in the praising (insulting) interview held a negative (positive)

Table 1. Condition differences in the perceived valence of intergroup context, group-based emotions, and group-based balanced appraisal (Study 1).

Measure	Insulting M (SD)	Praising M (SD)	95% C.I. for condition difference	Condition difference (d)
Perceived positivity	1.959 (1.485)$_a$	6.373 (.927)$_b$	[−4.900, −3.928]	3.528
Positive emotion	2.208 (.950)$_a$	3.697 (.630)$_b$	[−1.804, −1.173]	1.831
Negative emotion	3.222 (.921)$_a$	1.517 (.796)$_b$	[1.378, 2.033]	2.015
Emotional complexity	.691 (.181)$_a$	.564 (.178)$_b$	[.059, .196]	.707
Balanced appraisal	.881 (.177)$_a$	.574 (.207)$_b$	[.233, .382]	1.594

Note: Different subscripts within a row indicate significant difference ($p < .05$).

opinion. Hence, the dominant vs. conflicting responses were individualised based on the perceived valence reported by each participant, for example, when a participant felt that the interviewee was positive towards the in-group, positive was defined as the dominant response, irrespective of the interview content (praising or insulting). The same rule was used to calculate the balanced group-based appraisal.

Relationship between dialecticism and emotional complexity

Given that the participants were a non-student sample, their age and education background were controlled for all analysis as well (not entering these covariates did not change the results).

First, we conducted an analysis to see whether dialecticism was associated with complex group based emotions both in positive and negative intergroup contexts. A multiple regression was conducted entering group-based emotional complexity as an outcome variable and dialecticism, with valence of intergroup context, and their interaction as predictors. Results revealed a significant interaction between dialecticism and context valence, $b = −.150$, $p = .019$, 95% CI [−.275, −.026]. Among the participants who read the praising interview, dialecticism was associated with the greater complexity of group-based emotion ($b = .144$, $p = .001$), but this pattern was not evident among those who read the insulting interview ($p = .745$). This is consistent with our expectation that dialecticism only affects group-based emotional complexity under positive context. Based on this finding, the analyses reported below were conducted only among the participants in the positive intergroup condition.

Next, to analyse whether the effect of dialecticism on group-based emotion was distinguishable from its effect on individual emotions, we examined correlation between dialecticism, group-based emotions, and personal emotions. In addition to the significant correlation between dialecticism and the complexity

of group-based emotions, $r = .430$, $p = .001$, dialecticism was also significantly correlated with emotional complexity at the individual level, $r = .369$, $p = .005$, which replicated previous research (e.g. Hui et al., 2009). More importantly, the association between dialecticism and group-based emotion remained significant after controlling the emotional complexity at the individual level, $r = .369$, $p = .053$. This finding suggested that dialecticism predicted group-based emotion over and above individual emotion. All analyses below analysed group-based emotional complexity controlling for individual level emotions.

Does in-group identification account for the effect of dialecticism on group-based emotional complexity?

To examine whether in-group identification accounts for the association between dialecticism and group-based emotional complexity, a mediation analysis was conducted. First of all, dialecticism and national identification was not significantly correlated ($r = −.174$, $p = .194$), suggesting that dialecticism does not implicate weak in-group identification. Next, in-group identification negatively predicted group-based emotional complexity, though the effect was marginally significant, $b = −.029$, $p = .088$, 95% CI [−.063, .003]. In sum, these findings suggest a lack of association between independent variable and mediator, though the association between the mediator and dependent variable was significant. As such, in-group identification does not seem to mediate the association between dialecticism and group-based emotional complexity.

Does balanced group-based appraisal account for the effect of dialecticism on group-based emotional complexity?

To examine whether balanced group-based appraisal accounts for the association between

dialecticism and group-based emotional complexity, a mediation analysis was conducted. First of all, dialecticism was positively associated with balanced group-based appraisal ($r = 0.290$, $p = .030$). Moreover, balanced group-based appraisal positively predicted group-based emotional complexity, $b = .187$, $p = .006$. Next we conducted a mediation analysis to examine the role of balanced group-based appraisal in accounting for the association between dialecticism and group-based emotional complexity. The indirect effect was tested by the bootstrap procedure with 5000 re-samples (Preacher & Hayes, 2008). Table 4 summarises the findings. The indirect effect was significant, point estimate = .013, 95% CI [.003, .036], and the direct effect of dialecticism on group-based emotional complexity became non-significant ($b = .019$, $p = .242$) suggesting that the balanced group-based appraisal fully mediated the effect of dialecticism on group-based emotional complexity.

Discussion

Study 1 provided initial support for the association between dialecticism thinking and group-based emotional complexity and the underlying role of balanced group-based appraisals. Importantly, these findings were obtained independently of emotional complexity for individual emotion. Hence, the observed effect of dialecticism on group emotions was distinguishable from the previously observed effect at individual-level emotion (Hui et al., 2009).

Consistent with prior research, in-group identity was associated with less complex group-based emotions (Smith et al., 2007). However, dialecticism was not correlated with in-group identification, suggesting that the association between dialecticism and complex group-based emotions was not accounted for by in-group identification. Consistent with individual-level emotion research (Miyamoto et al., 2010), the association between dialecticism and emotional complexity was evident only for the positive intergroup context, suggesting that in a negative intergroup context, even non-dialectical thinkers focus on finding positive a side[3]. To the extent to which this finding indicates the association between dialecticism and group-based emotional complexity is likely present only in the positive context, Studies 2 and 3 focused on a positive intergroup context.

Study 2

Method

Participants

The participants were 34 Dutch students (24 females, $M_{Age} = 21.1$, SD = 2.9) recruited from the University of Amsterdam and 30 Chinese students (19 females, $M_{Age} = 21.4$, SD = 1.7) recruited from Xiamen University and Capital Normal University. The participants received partial course credit or a small monetary reward for their participation.

Procedure

The study was conduct in English in the Netherlands[4] and Chinese in China. At the beginning, the participants were told that the study was to investigate people's emotional reactions to daily life events. The participants then completed Dialectical Self Scale as Study 1 (Spencer-Rodgers et al., 2016; alpha = .746 for all participants, .727 for Dutch participants, and .558 for Chinese participants)and the In-group Identification Scale (Doosje et al., 1998) which includes four items ("I feel a bond with Dutch/Chinese) people", "I see myself as Dutch/Chinese", "I identify with other Dutch/Chinese people", and "I am glad to be Dutch /Chinese", alpha = .729 for all participants, .732 for Dutch participants, and .566 for Chinese participants). Responses were indicated on a 5-point scale (from 1 = strongly disagree to 5 = strongly agree).

Subsequently, the participants read a passage presented to them as a script from an interview, which was similar to the intergroup praising interview of Study 1. Because participants in Study 2 was student sample, some statements were modified to fit the context. For example, "People here are selfish and cold-hearted" was modified into "Students here are immature and irresponsible". To check whether participants understood the intergroup scenario as positive or negative, participants reported their perceived valence as Study 1.

Next, the participants reported their group-based emotions induced by the interview on a 5-point scale (from 1 = not at all to 5 = extreme). The emotional lists included 11 positive emotions (alpha = .963 for all participants, .903 for Dutch participants, and .947 for Chinese participants): happy, satisfied, pleased, honoured, calm, proud, enthusiastic, hopeful, excited, relaxed, and sympathy; and 11 negative emotions

(alpha = .880 for all participants, .608 for Dutch participants, and .866 for Chinese participants): angry, sad, irritated, humiliated, fearful, shamed, embarrassed, guilty, worried, disappointed, and contempt.

Similar to Study 1, participants appraisals were measured by four positive items (alpha = .854 for all participants, .845 for Dutch participants, and .882 for Chinese participants) and four negative items (alpha = .728 for all participants, .628 for Dutch participants, and .732 for Chinese participants) with the response option ranging from 1 = *not at all* to 5 = *extreme*.

Items were randomised within scales. The calculation method for emotional complexity and balanced appraisals followed Study 1.

Results

Manipulation check

All participants in both countries thought that the international students in the interview held a non-negative opinion towards their in-group (two participants thought that the interview fared the in-group neutrally) and there was no difference in this effect between the two groups ($p = .207$).

Cultural differences in dialecticism and group-based emotions

The Chinese participants were more dialectical than the Dutch participants, $t(62) = 5.115$, $p < .001$, 95% CI [−.635, −.278] (Table 2). The two groups differed on the emotional complexity score, $t(62) = 4.963$, $p < .001$, 95% CI[−.248,−.104] in that the Chinese participants scored higher than the Dutch participants.

We conducted a mediation analysis to examine whether the difference in dialecticism accounts for the cultural differences in emotional complexity. The indirect effect of culture on emotional complexity via dialecticism was tested by the bootstrap procedure

with 5000 re-samples (Preacher & Hayes, 2008). Results reveal that the indirect effect was significant, point estimate = .040, 95% CI [.005, .096], suggesting that dialecticism mediated the cultural differences in emotional complexity. The direct effect of culture on emotional complexity remained significant ($b = .137$, $p = .001$), indicating a partial mediation (Table 4).

Does in-group identification account for the effect of dialecticism on emotional complexity?

Unexpectedly, dialecticism and in-group identification were positively correlated, although marginally ($r = .235$, $p = .061$). Next, we conducted a multiple regression analysis predicting emotional complexity from in-group identification and dialecticism. Replicating Study 1, in-group identification predicted lower emotional complexity, although this association was not significant $b = −.037$, $p = .214$, 95% CI [−.095, .022]. In sum, these findings do not support the postulate that the association between dialecticism and complex group-based emotion is accounted for by in-group identification.

Does balanced appraisal account for the effect of dialecticism on emotional complexity?

We conducted a mediation analysis to examine whether the difference in balanced appraisal accounts for the effect of dialecticism on emotional complexity. The indirect effect of dialecticism on emotional complexity via balanced appraisal was tested by the bootstrap procedure with 5000 re-samples (Preacher & Hayes, 2008). The indirect effect was significant, point estimate = .074, 95% CI [.012, .154], suggesting that the balanced appraisal mediated the effect of dialecticism on emotional complexity. The direct effect of dialecticism on-emotional complexity remained significant ($b = .103$, $p = .007$), indicating a partial mediation (Table 4).

Table 2. Cultural differences in dialecticism, group-based emotional complexity, in-group identification, and balanced appraisal (Study 2).

Measure	Dutch M (SD)	Chinese M (SD)	95% C.I. for culture difference	Culture difference (d)
Dialecticism	2.688 (.408)a	3.143 (.285)b	[−.635, −.278]	1.302
Group-based emotion				
Complexity	.478 (.069)a	.654 (.183)b	[−.248, −.104]	1.263
Positive	3.535 (.708)a	2.767 (1.043)b	[.315, 1.221]	.867
Negative	1.056 (.125)a	1.515 (.516)b	[−.656, −.262]	1.215
Identification	3.507 (.520)a	4.142 (.590)b	[−.912, −.357]	1.419
Balanced appraisal	.584 (.102)a	.659 (.162)b	[−.144, −.006]	.554

Note: Different subscripts within a row indicate significant difference ($p < .05$).

Discussion

Replicating Study 1, Study 2 found the effect of dialecticism on complex group-based emotions in a cross-cultural comparison, and confirmed the role of balanced appraisal in accounting for the association between dialecticism and complex group-based emotions. As for the role of in-group identification, it was positively associated with dialecticism and was not associated with complex group-based emotions. Hence, in-group identification did not account for the association between dialecticism and complex group-based emotions. In Study 3, dialecticism was operationalised by experimental priming, which also aimed to examine the causal link between dialecticism and complex group-based emotions.

Study 3

Method

Participants

Sixty-seven participants (38 females) were recruited from The Chinese University of Hong Kong (M_{Age} = 19.4, SD = 1.0). The participants received partial course credit.

Procedure

The participants were randomly assigned to a page-long fabricated news report that introduced either a dialectical orientation ("Aristotle Got It All Wrong") or a linear orientation ("Aristotle Was Right: Truth Is Truth"). Each article contained a brief description of the dialectical or linear orientation, followed by a series of "findings" demonstrating why the particular orientation was beneficial, such as "individuals who consider multiple sides of the same issue during problem-solving tasks tend to perform better" in the dialectical orientation article, and "individuals who seek to find the right answer during problem-solving

tasks (as opposed to simply considering multiple sides of the same issue) tend to perform better" in the linear orientation article. After reading the article, the participants were asked to write two or three paragraphs generating examples from their own lives in support of the argument they had read. We adopted this task from past research (Cheng, 2009; Ma-Kellams, Spencer-Rodgers, & Peng, 2011; Spencer-Rodgers, Peng, Wang, & Hou, 2004; Spencer-Rodgers, Williams, et al., 2010).

Next, the participants read the same scenario as in Study 2 and completed the same measures of manipulation check, group-based emotions (for positive items, alpha = .865; for negative items, alpha = .844), and balanced appraisals (for positive items, alpha = .739; for negative items, alpha = .805), and in-group identification (alpha = .722). Items were randomised within scales. The method of calculation for emotional complexity and balanced appraisals followed Study 1.

Results

Manipulation check

Most participants in both conditions thought that the international students in the interview held a positive opinion towards their in-group, and that there was no difference between the conditions on this ($p = .101$).

Table 3 summarises the descriptive statistics. There was a significant effect of the manipulation on emotional complexity, $t(65) = 2.200$, $p = .032$, 95% CI [−.130, −.006].

Does in-group identification account for the effect of dialecticism on emotional complexity?

The manipulation of dialecticism did not result in weaker in-group identification [$t(65) = .211$, $p = .833$] – the positive association found in Study 2

Table 3. Conditional differences in group-based emotional complexity, in-group identification, and balanced appraisal (Study 3).

Measure	Linear priming M (SD)	Dialectical priming M (SD)	95% CI for condition difference	Condition difference (d)
Group-based emotionion				
Complexity	.514 (.095)ₐ	.583 (.153)_b	[−.130, −.006]	.542
Positive	3.303 (.702)ₐ	3.021 (.767)_b	[.077, .641]	.389
Negative	1.132 (.225)ₐ	1.316 (.438)_b	[−.354, −.013]	.537
Identification	3.917 (.608)ₐ	3.890 (.422)ₐ	[−.228, .282]	.061
Balanced appraisal	.566 (.149)ₐ	.653 (.195)_b	[−.173, −.003]	.501

Notes: CI = confidence interval. Different subscripts within a row indicate significant difference ($p < .05$).

was not replicated when dialecticism was manipulated. In-group identification was a significant negative predictor of emotional complexity, $\beta = -.278$, $p = .032$, 95% CI [$-.130$, $-.010$]. However, because in-group identification was not associated with dialecticism, it does not account for the association between dialecticism and complex group-based emotions.

Does balanced appraisal account for the effect of dialecticism on emotional complexity?

Compared to the linear-thinking condition, participants in the dialectical thinking condition scored higher on balanced appraisal, $t(65) = 2.064$, $p = .043$, 95% CI [$-.173$, $-.003$]. Consistent with Studies 1 and 2, there was a positive association between balanced appraisal and emotional complexity ($r = .573$, $p < .001$). A mediation analysis (Table 4) showed that the difference in appraisal fully mediated the condition difference in emotional complexity: the indirect effect was significant in the bootstrap procedure with 5,000 re-samples (Preacher & Hayes, 2008), point estimate = .036, 95% CI [.004, .083], and the condition difference in emotional complexity was no longer significant when analysed simultaneously with the balanced appraisal ($b = .033$, $p = .228$). These results suggested that priming dialectical thinking increased balanced appraisal and more complex emotions came as a result.

Discussion

The effect of dialecticism on complex group-based emotion was confirmed in an experiment, and the condition difference between dialectical priming and linear priming was accounted for by balanced group-based appraisal. The manipulation of dialecticism did not produce a difference in in-group identification, suggesting that the association between dialecticism and complex group-based emotion is not accounted for by in-group identification.

General discussion

This research found that dialecticism is associated with complexity of group-based emotions in a predominately positive intergroup context and that this association is accounted for by a balanced appraisal of a group-relevant event. The effect of dialecticism was observed in a correlational study (Study 1), a cross-cultural comparison (Study 2), and in an experiment (Study 3). In-group identification was predictive of less complex group-based emotions in Studies 1 and 3; however, because dialecticism was not associated with weaker in-group identification, in-group identification does not seem to account for the association between dialecticism and group-based emotions.

Research suggests that group-based emotions are distinct from individual emotions (Smith et al., 2007). In line with this finding, Study 1 demonstrated that, in a positive intergroup context, dialecticism uniquely predicted group-based emotions and appraisals after the impact of individual emotions were controlled, suggesting the effect of dialecticism on group-based emotions can be distinguishable from individual emotions. To our knowledge, this is the first demonstration of the role dialecticism plays in shaping group-based emotions. Based on previous research findings (Hui et al., 2009; Spencer-Rodgers, Williams, & Peng, 2012), we postulated that dialecticism may shape group-based emotion either by changing the group-based appraisal processes or by weakening the individuals' in-group identity. The current research supported the role of group-based

Table 4. Summary of mediation analyses (Studies 1, 2, and 3).

	Independent variable	Mediator	a	b	c	c′
Study 1	Dialecticism	Appraisal	.073*	.187**	.033 ($p = .053$)	.019
Study 2	Culture	Dialecticism	.456***	.086 ($p = .075$)	.176***	.137**
Study 2	Dialecticism	Appraisal	.108*	.660***	.175***	.103*
Study 3	Condition	Appraisal	.088*	.398***	.068*	.033

Notes: *a* represents the regression coefficient from independent variable to mediator; *b* is the coefficient for direct effect of mediator on dependent variable; *c* is the coefficient for total effect of independent variable on dependent variable; *c′* is the coefficient for direct effect of independent variable on dependent variable.
*$p < .05$.
**$p < .01$.
***$p < .001$.

appraisal but not weakened in-group identity. Although dialecticism may lead to more ambivalent in-group attitudes (Ma-Kellams et al., 2011) and fluid representation of group membership (Spencer-Rodgers, Williams, et al., 2010, 2012), dialecticism does not seem to implicate weak in-group identification.

Group-based emotions play an important role in regulating intergroup processes (Smith et al., 2007). As such, our findings of cultural differences in group-based emotions help to advance the understanding of cross-cultural differences in intergroup processes. For example, although Western research indicates that positive emotions during intergroup contact help to reduce prejudice towards the out-group (Miller et al., 2004), to the extent that participants from dialectical cultures may experience more complex group-based emotions under positive intergroup contexts (but not under negative context), an intergroup contact that is similarly positive may not result in a similar reduction of prejudice in a dialectical cultural context. Such a possibility should be examined in future research. Another future direction may be to examine the eventual behavioural consequences of group-based emotional complexity under actual intergroup interactions. In Western literature, it has been found that the experience of ambivalent and complex attitudes towards out-groups may be eventually polarised in either a positive or a negative direction because of the need to synthesise ambivalent experiences (for a review, see van Harreveld, van der Pligt, & de Liver, 2009). However, given the inclination of dialectical thinkers to perceive ambivalence and contradictions as natural and rooted in every object especially in a positive situation, the ambivalence-amplification hypothesis may not be generalisable to the East Asian population.

Besides demonstrating the effects of dialecticism in shaping group-based emotion processes, the findings from this research suggest the importance of examining emotional complexity in an intergroup context. In previous studies on group-based emotion, positive emotions and negative emotions were examined independently (e.g. Rydell et al., 2008). Although emotional complexity has been studied extensively in Western research on individual emotions, in group-based emotion research, emotional contexts were largely either predominantly positive (e.g. in-group success) or negative (e.g. facing out-group threats). The findings from this research demonstrate that particularly in a predominately positive intergroup context, the concurrence of positive and negative emotions is feasible.

In fact, Study 1 appears to suggest that whereas dialecticism increases the emotional complexity during positive intergroup events, this does not extend to a negative intergroup event, where both dialectical and non-dialectical individuals tend to experience emotional complexity. The finding may suggest that under negative intergroup situations, emotional complexity serves a regulatory function in alleviating negative emotions (Leu et al., 2010; Miyamoto et al., 2010). Future research could examine this possibility.

Limitations

One limitation of the current research is that group-based appraisal was not manipulated, hence the causal relations between balanced group-based appraisal and emotional complexity was not established. In fact, the reversed mediation, where emotional complexity is analysed as a mediator of the effects of dialecticism on balanced appraisal, was significant in all studies[5]. This limitation, which could not be addressed with the current findings, however, should be considered within the context of past research that documented the causal effect of group-based appraisal on group-based emotions (Rydell et al., 2008). In fact, a role of appraisal as a precursor for emotion is a widely held proposition in emotion research (Kuppens et al., 2013; Smith & Lazarus, 1993). In short, alternative ordering of the mediation model (e.g. dialecticism shapes complex group emotions, which in turn, shapes mixed appraisal of intergroup situation) is at odds with the previous research.

Second, reliability alphas were low for Dialectical-Self-Scale in Studies 1 and 2, identity scale among Chinese participants in Study 2, and negative emotions and appraisals for Dutch participants in Study 2. For this reason, findings involving these measures in Studies 1 and 2 might have underestimated the effect of dialecticism on appraisal and emotional complexity. In Study 3 dialecticism was manipulated and all measures demonstrated a higher level of reliability (alphas > .73). Given that the results in Study 3 replicated the patterns observed in Studies 1 and 2, the low reliability limitation in Studies 1 and 2 was addressed to some extent.

Conclusion

This research found that when the intergroup context is positive, dialecticism predicts group-based emotional complexity via its effect on the balanced appraisal of

group relevant situations. Given the role of group-based emotions in regulating intergroup relations, the current findings should aid future research which examines intergroup processes across cultures.

Notes

1. Disclosure statement. Sample size for this research was determined by analyses performed on the G*Power Program (Faul, Erdfelder, Lang, & Buchner, 2007). For a regression analysis (Study 1), a medium effect size was estimated for dialecticism for its effect of emotional complexity based on a prior study (Hui et al., 2009). In order to attain statistical power of 0.9, the required sample size was 73 participants. For a cross-cultural comparison (Study 2) and an experimental manipulation (Study 3), the effect of dialecticism is estimated to be large, based on a prior study (Spencer-Rodgers, Peng, et al., 2010). In order to attain statistical power of 0.9, the required sample size was 34 participants in each cultural/manipulation groups. In regards to data and measures not reported in the manuscript. Study 2, conducted as a part of the first author's master's thesis, originally included a condition in which participants read an intergroup insulting scenario. However, the Dutch participants in this condition reported stronger positive emotions than negative emotions, suggesting the failure of the scenario in depicting intergroup insult. With this issue, the data were difficult to interpret thus was not reported in the manuscript. In addition, Studies 2 and 3 originally included measure of participants' positive and negative action tendency after reading the intergroup scenario. There was a significant cultural difference (Study 2) and condition difference (Study 3) in this measure, similar to the findings on the emotional complexity measures. Given that these the current research did not systematically examine implications of emotional complexity on intergroup behaviors, these findings are not reported.

2. In the literature, emotional complexity has also been computed by other formulas, such as PA+NA-|PA-NA| (Hui et al., 2009; Kaplan, 1972), or by the correlation between positive and negative emotions (Schimmack et al., 2002). In the current research, the former method resulted in the generally converging finding – however, as the formula does not consider the effect of dominant emotion, we did not choose this formula (for a similar decision, see Spencer-Rodgers et al., 2004). With regards to the computation based on correlation (Schimmack et al., 2002), this method examines the extent to which the positive and negative emotions co-vary across different situations within individuals, rather than the co-existence of positive and negative emotions under a specific situation (Miyamoto et al., 2010). Because the latter is the focus of current research, this formula was not used.

3. Two findings are relevant to this claim. First, dialecticism was not predictive of balanced group-based appraisal ($r = -.227$, $p = .109$) or complex group-based emotion

in the intergroup insulting condition. Second, participants in the insulting condition reported a higher level of emotional complexity ($p < .001$) and balanced appraisals ($p < .001$) than participants in the praising condition.

4. English was used following the norm of psychological experiments conducted at this university.

5. Study 1, point estimate = .023, 95% CI [.005, .056]; Study 2, point estimate = .097, 95% CI [.043, .192]; Study 3, point estimate = .051, 95% CI [.008, .112].

Disclosure statement

Funding

References

Cheng, C. (2009). Dialectical thinking and coping flexibility: A multimethod approach. *Journal of Personality*, 77, 471–493. doi:10.1111/j.1467-6494.2008.00555

Doosje, B., Branscombe, N. R., Spears, R., & Manstead, A. S. R. (1998). Guilty by association: When one's group has a negative history. *Journal of Personality and Social Psychology*, 75, 872–886. doi:10.1037/0022-3514.75.4.872

Esses, V. M., & Dovidio, J. F. (2002). The role of emotions in determining willingness to engage in intergroup contact. *Personality and Social Psychology Bulletin*, 28, 1202–1214. doi:10.1037/0022-3514.88.5.770

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191.

Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston: Row, Peterson.

Fischer, A. H., & Manstead, A. S. R. (2008). Social functions of emotion. In M. Lewis, J. Haviland, & L. Feldman Barrett (Eds.), *Handbook of emotions* (3rd ed.) (pp. 456–468). New York, NY: Guilford Press.

Goetz, J. L., Spencer-Rodgers, J., & Peng, K. P. (2008). Dialectical emotions: How cultural epistemologies influence the experience and regulation of emotional complexity. *Handbook of Motivation and Cognition across Cultures*, 517–539. doi:10.1016/B978-0-12-373694-9.00022-2

Gordijn, E. H., Yzerbyt, V., Wigboldus, D., & Dumont, M. (2006). Emotional reactions to harmful intergroup behavior. *European Journal of Social Psychology*, 36, 15–30. doi:10.1002/ejsp.296

van Harreveld, F., van der Pligt, J., & de Liver, Y. N. (2009). The agony of ambivalence and ways to resolve it: Introducing the MAID model. *Personality and Social Psychology Review*, 13, 45–61. doi:10.1177/1088868308324518

Heider, F. (1958). *The psychology of interpersonal relations*. New York, NY: John Wiley & Sons.

Hui, C. M., Fok, H. K., & Bond, M. H. (2009). Who feels more ambivalence? Linking dialectical thinking to mixed emotions. *Personality and Individual Differences*, 46, 493–498. doi:10.1016/j.paid.2008.11.022

Iyer, A., & Leach, C. W. (2008). Emotion in inter-group relations. *European Review of Social Psychology*, 19, 86–125. doi:10.1080/10463280802079738

Ji, L., Nisbett, R. E., & Peng, K. (2001). Culture, change, and prediction. *Psychological Science*, 12, 450–456. doi:10.1111/1467-9280.00384

Kaplan, K. J. (1972). On the ambivalence-indifference problem in attitude theory and measurement: A suggested modification of the semantic differential technique. *Psychological Bulletin*, 77, 361–372. doi:10.1037/h0032590

Kuppens, T., & Yzerbyt, V. Y. (2014). When are emotions related to group-based appraisals? A comparison between group-based emotions and general group emotions. *Personality and Social Psychology Bulletin*, 40(12), 1574–1588. doi:10.1177/0146167214551542

Kuppens, T., Yzerbyt, V. Y., Dandache, S., Fischer, A. H., & Van Der Schalk, J. (2013). Social identity salience shapes group-based emotions through group-based appraisals. *Cognition & Emotion*, 27(8), 1359–1377. doi:10.1080/02699931.2013.785387

Leu, J., Mesquita, B., Ellsworth, P. C., ZhiYong, Z., Huijuan, Y., Buchtel, E., … Masuda, T. (2010). Situational differences in dialectical emotions: Boundary conditions in a cultural comparison of North Americans and East Asians. *Cognition and Emotion*, 24, 419–435. doi:10.1080/02699930802650911

Lewin, K. (1951). *Field theory in social science*. Oxford: Harpers.

Mackie, D. M., Devos, T., & Smith, E. R. (2000). Intergroup emotions: Explaining offensive action tendencies in an intergroup context. *Journal of Personality and Social Psychology*, 79, 602–616. doi:10.1037/0022-3514.79.4.602 11045741

Maitner, A. T., Mackie, D. M., & Smith, E. R. (2006). Evidence for the regulatory function of intergroup emotion: Emotional consequences of implemented or impeded intergroup action tendencies. *Journal of Experimental Social Psychology*, 42, 720–728. doi:10.1016/j.jesp.2005.08.001

Ma-Kellams, C., Spencer-Rodgers, J., & Peng, K. (2011). I am against us? Unpacking cultural differences in ingroup favoritism via dialecticism. *Personality and Social Psychology Bulletin*, 37, 15–27. doi:10.1177/0146167210388193

Mesquita, B., & Leu, J. (2007). The cultural psychology of emotion. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology* (pp. 734–759). New York, NY: Guilford Press.

Miller, D. A., Smith, E. R., & Mackie, D. M. (2004). Effects of intergroup contact and political predispositions on prejudice: Role of intergroup emotions. *Group Processes & Intergroup Relations*, 7, 221–237. doi:10.1177/1368430204046109

Miyamoto, Y., Uchida, Y., & Ellsworth, P. C. (2010). Culture and mixed emotions: Co-occurrence of positive and negative emotions in Japan and the United States. *Emotion*, 10, 404–415. doi:10.1037/a0018430 20515228

Peng, K., & Nisbett, R. E. (1999). Culture, dialectics, and reasoning about contradiction. *American Psychologist*, 54, 741–754. doi:10.1037/0003-066X.54.9.741

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879–891. doi:10.3758/BRM.40.3.879

Roccas, S., Schwartz, S. H., & Amit, A. (2010). Personal value priorities and national identification. *Political Psychology*, 31, 393–419. doi:10.1111/j.1467-9221.2010.00763.x

Rydell, R. J., Mackie, D. M., Maitner, A. T., Claypool, H. M., Ryan, M. J., & Smith, E. R. (2008). Arousal, processing, and risk taking: Consequences of intergroup anger. *Personality and Social Psychology Bulletin*, 34, 1141–1152. doi:10.1177/0146167208319694

Schimmack, U., Oishi, S., & Diener, E. (2002). Cultural influences on the relation between pleasant emotions and unpleasant emotions: Asian dialectic philosophies or individualism-collectivism? *Cognition and Emotion*, 16, 705–719. doi:10.1080/02699930143000590

Scott, W. A. (1966). Brief report: Measures of cognitive structure. 1966. *Multivariate Behavioral Research*, 1, 391–395. doi:10.1207/s15327906mbr0103_9

Shiota, M. N., Campos, B., Gonzaga, G. C., Keltner, D., & Peng, K. (2010). I love you but: Cultural differences in complexity of emotional experience during interaction with a romantic partner. *Cognition and Emotion*, 24, 786–799. doi:10.1080/02699930902990480

Smith, C. A., & Lazarus, R. S. (1993). Appraisal components, core relational themes, and the emotions. *Cognition and Emotion*, 7, 233–269. doi:10.1080/02699939308409189

Smith, E. R. (1993). Social identity and social emotions: Toward new conceptualizations of prejudice. In D. M. Mackie & D. L. Hamilton (Eds.), *Affect, cognition, and stereotyping: Interactive processes in group perception* (pp. 297–315). San Diego, CA: Academic Press.

Smith, E. R., & Mackie, D. M. (2008). Intergroup emotions. In M. Lewis, J. Haviland, & L. Feldman Barrett (Eds.), *Handbook of emotions* (3rd ed.) (pp. 428–439). New York, NY: Guilford Press.

Smith, E. R., Seger, C. R., & Mackie, D. M. (2007). Can emotions be truly group level? Evidence regarding four conceptual criteria. *Journal of Personality and Social Psychology*, 93, 431–446. doi:10.1037/0022-3514.93.3.431

Spencer-Rodgers, J., Peng, K., & Wang, L. (2010). Dialecticism and the co-occurrence of positive and negative emotions across cultures. *Journal of Cross-Cultural Psychology*, 41, 109–115. doi:10.1177/0022022109349508

Spencer-Rodgers, J., Peng, K., Wang, L., & Hou, Y. (2004). Dialectical self-esteem and east-west differences in psychological well-being. *Personality and Social Psychology Bulletin*, 30, 1415–1432. doi:10.1177/0146167204264243

Spencer-Rodgers, J., Srivastava, S., Boucher, H. C., English, T., Paletz, S. B., Wang, L., & Peng, K. (2016). *The Dialectical Self Scale*. Unpublished manuscript, University of California, Santa Barbara.

Spencer-Rodgers, J., Williams, M. J., & Peng, K. (2010). Cultural differences in expectations of change and tolerance for contradiction: A decade of empirical research. *Personality and Social Psychology Review*, 14(3), 296–312. doi:10.1177/1088868310362982

Spencer-Rodgers, J., Williams, M. J., & Peng, K. (2012). Culturally based lay beliefs as a tool for understanding inter-group and intercultural relations. *International Journal of Intercultural Relations*, 36(2), 169–178. doi:10.1016/j.ijintrel.2012.01.002