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SHORT NOTES

Predictors of intergroup concern for disaster victims of the Japan earthquake

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The study examined the relationships between out-group perception, perceived intergroup conflict, emotions, and concern for out-group victims in the context of the Japanese earthquake of 2011. Six hundred and eighty-six participants in China completed a questionnaire immediately after the earthquake. Results showed that the image of Japan and historical conflicts between the two nations significantly predicted intergroup emotions. A positive image of Japan enhanced Chinese respondents' perceived competence of the Japanese people, which, however, appeared to mitigate concern for the victims. Positive emotions increased participants' concern for Japanese victims. Implications of the research findings are discussed with reference to research on intergroup relations and help following disasters.

Key words: disaster, earthquake, intergroup relation.

The Great East Japan Earthquake of March 2011 and the tsunami that followed was the most powerful natural disaster ever to hit Japan. The two events killed more than 19 000 people and led to considerable social disruption (National Police Agency of Japan, 2012). Given the magnitude of this disaster, even in a country as well-resourced as Japan, it was not surprising to see international calls for aid for those most affected (Dickler, 2011). However, actual helping behaviour during disasters is the result of a complex interplay between different factors (Avdeyeva, Burgetova & Welch, 2006). Such help may be particularly difficult to galvanize and coordinate when aid is from nations with competing and conflicted histories. The current study focuses on the responses of young Chinese to the Great East Japan earthquake, exploring the effects of intergroup history, perception, and emotions on reactions to disaster victims.

Previous research has highlighted the role of intergroup relationships in influencing helping behaviour across groups in the context of disasters (Michel, 2007). Past research has also established that people are more willing to help in-group members than out-group ones (Levine, Prosser, Evans & Reicher, 2005). Cognitions and emotions about out-groups have been shown to be dependent on many factors, such as a conflict of interest between the groups (Sherif, Harvey, White, Hood & Sherif, 1961) and identity concerns (Tajfel & Turner, 1986). In their analysis of responses to the Hurricane Katrina tragedy, Cuddy, Rock and Norton (2007) examined the role of infrahumanization in intergroup helping. Their results indicated that humanly unique feelings or secondary emotions (e.g. sorrow) were more predictive of intergroup helping than in-group helping. Cehajic, Brown and Gonzalez (2009) observed that increasing the attribution of secondary emotions to an out-group will lead to strong empathy and caring for that out-group's plight.

Emotions can function at both interpersonal and intergroup levels. Group-level emotions motivate and regulate group members' attitudes, behavioural intentions, and actual behaviours in relation to social groups (Smith, Seger & Mackie, 2007). Leonard, Mackie and Smith (2011), for example, found that an intergroup apology facilitates intergroup reconciliation, in part because it changes emotions the victim group holds for the perpetrator group. Intergroup perceptions and contexts also play important roles in structuring intergroup relations and moulding behavioural orientations between groups. Perceptions of an out-group not only reflect the nature of intergroup relations but also may help justify in-group members' behaviour toward out-group ones (Alexander, Brewer & Livingston, 2005). On the other hand, the nature and functions of intergroup relations vary greatly across different types of intergroup relations (e.g. between countries). For instance, nations typically differ in terms of the relative power and cultural sophistication they are perceived to have, and in terms of the threat/opportunity they present *vis-a-vis* the in-group. These factors have been robustly linked with stereotypes and attitudes toward these national out-groups (Glick *et al*., 2006). Past research has identified two primary dimensions of intergroup stereotypes as competence and warmth, and the four competence–warmth combinations (i.e. high–high, high–low, low–high, low–low) are differentiated by different intergroup emotions (Fiske, Cuddy, Glick & Xu, 2002). Cuddy, Fiske and Glick (2007) argued that both stereotypes and emotions influence behavioural tendencies and responses between groups. However, this body of work

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typically investigates perceptions of how groups *are*, rather than what groups have *done*. The effects of historic intergroup behaviour and actions (particularly those of a negative nature) have also been studied, but typically by asking people about negative transgressions perpetrated by the in-group, rather than the out-group (e.g. Zagefka, Pehrson, Mole & Chan, 2010).

In light of the above, the current study presents an important innovation by focusing on how negative out-group behaviours in the past are linked to intergroup emotions and attitudes in a unique intergroup relational context. Specifically, we focus on the troubled historical relationship between Japan and China. In particular, we focus on two events: the historical war between China and Japan in the 1930s and 1940s (and notably the 1937 Nanjing Massacre), and more recent territorial disputes over ownership of the resource-rich Fishing Islands.

In this study, we hypothesize that the image participants have about the perpetrator country, and historical frictions between groups, predict in-group members' emotions toward members of the out-group. Further, these two exogenous factors are hypothesized to impact on how potential donors react to the disaster victims in a causal sequence mediated by emotions toward the victims, and cognitions about them. Country image, or the image of an out-group, is expected to predict the perceived competence of that out-group. Such a prediction is reasonable in light of the well-researched country-of-origin effect in marketing or consumer psychology (Verlegh, Steenkamp & Meulenberg, 2005). The country of origin is both an informational cue and a source variable that affects those entities coming from that country.

In addition, prior research has testified to the predictive relationship between emotions, attitudes, and disaster helping in an intergroup context. Russell and Mentzel (1990), for instance, examined the relationship between sympathetic emotion and altruism in response to 20 different world disasters, using a sample of Canadian students. Their findings demonstrated that sympathy was positively related to help-giving. Winterich, Mittal and Ross (2009) considered the role of moral identity in promoting in-group and out-group donations. Their results suggest that the more people cherish certain moral values (e.g. being fair, kind), the more they are willing to donate to others. Cikara, Bruneau and Saxe (2011) further suggest that conflict resolution and prejudice reduction (e.g. positive intergroup contact, perspective-taking) may increase empathy, leading to high intergroup helping.

Thus, intergroup emotions are expected to inform perceived levels of competence of the out-group, as well as concern for the victims' plight. An effect of emotions on perceived competence can be expected on the basis of emotional effects on cognitive activities (Easterbrook, 1959; Tashiro & Frazier, 2007). Research has reported the effect of emotions on cues utilization (Easterbrook, 1959) and cognitive attribution (Tashiro & Frazier, 2007). Further, both emotions and cognitions about the victims have been linked to concern for the victims (Zagefka, Noor, Randsley de Moura, Hopthrow & Brown, 2011). However, certain cognitions might increase concern (e.g. if the victims are perceived as blameless, Zagefka *et al*., 2011), and others might decrease concern. Here, we hypothesized that a perception of the Japanese people as competent would actually decrease concern, because people would be less likely to be worried about victims who are perceived to be competent enough to look after themselves. Taken together, this means we would expect a direct effect of emotions on concern for the victims, as well as an indirect effect, mediated by perceived levels of competence. In accordance with the above reasoning, the conceptual model of the study is presented in Figure 1.

Method

Participants

Respondents from four different universities on the eastern coast of China completed a paper and pencil survey. Two of the universities operate at a national level, whereas the other two operate at a provincial level. Respondents came from different departments or majors, including humanities, social science, natural science, and engineering. The sample was comprised of 35.6% freshmen, 19.8% sophomores, 30.0% juniors, 0.9% seniors, and 13.7% graduate students. Although we did not collect information on students' family background, the majority of students are likely to have come from urban areas.

Data were collected two weeks after the earthquake. Overall, 700 questionnaires were returned; 686 were retained for analysis after removing those with multiple missing data. Of the sample, 40.1% were male and 59.9% were female, with an average age of 21.8 years ($SD = 2.63$).

Procedure

The questionnaire consisted of three sections: participants' general perceptions of, and attitudes toward, Japan and Japanese people, and historical events between the two countries; earthquake-specific questions; and demographics. Students completed the 15-minute questionnaire for course credits and a $2 incentive. All aspects of the research were in line with APA ethics guidelines.

Measures

Image of Japan. To measure Chinese perceptions of Japan as a whole, items from prior research on country image

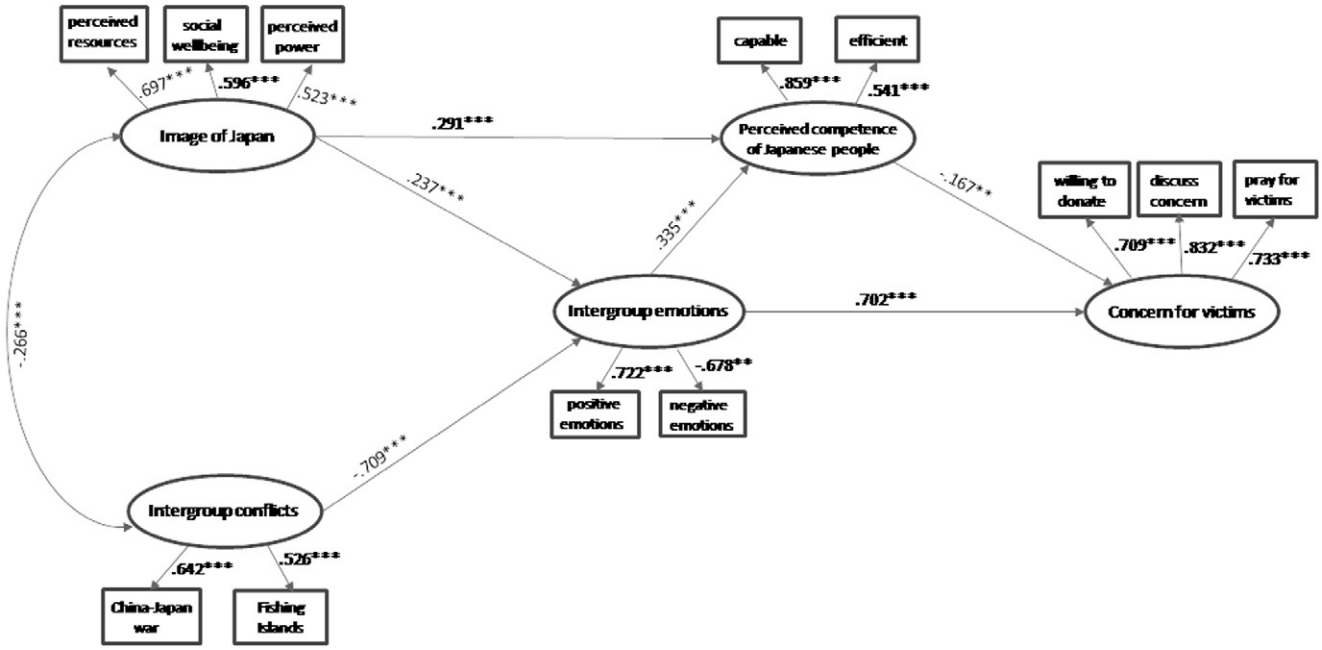

Figure 1 Intergroup emotions mediate the effects of the image of Japan and intergroup conflicts on concern for victims.
Note. ***$p < 0.001$; **$p < 0.01$.

were used (Glick *et al*., 2006). Participants were instructed: 'viewing Japan as a whole including its government, people and culture, etc., how do you compare Japan with most countries in the world on the following dimensions?' Response options ranged from −3 (lagging far behind) to +3 (far ahead), and eight dimensions were measured.

It should be emphasized that, for the measures of image as well as emotions, items employed here are not identical to those of previous studies, for two reasons. First, translation of certain English items into Chinese was not straightforward, although back-translation was utilized to obtain optimal results. The goal of instrument translation was to achieve semantic, conceptual, and normative equivalence across cultures. As such, items not applying well to the Chinese context were dropped. Second, some concepts or constructs such as warmth and emotion are not meaningfully distinguishable in the Chinese language. Hence, we only focus on those dimensions and items that are more relevant, meaningful, and distinguishable in the current Chinese, disaster, and intergroup context.

Three items measured Japan's perceived resources; these were 'economic power', 'industrial development', and 'technological competence' ($\alpha = 0.89$). Three items measured social wellbeing; these were 'social fairness', 'public healthcare', and 'citizen happiness' ($\alpha = 0.70$). Finally, two items measured perceived power; these were 'military power' and 'political influence' ($r = 0.50$). The three indices were then employed as indicators of the latent variable 'Image of Japan' in accordance with the item-parcelling procedure (Little, Cunningham, Shahar & Widaman, 2002).

Intergroup conflicts. This latent variable was assessed by two items. The first examined views of the China–Japan war (1937 to 1945): 'the historical atrocity of the China–Japan war should never be forgotten.' A second event concerned the long-time territorial dispute over the Fishing Islands: 'as for the dispute on Fishing Islands, the fault is primarily on the Japanese side.' Response options ranged from 1 (strongly disagree) to 5 (strongly agree), ($r = 0.337$, $p < 0.001$).

Intergroup emotions. In a pilot study, we conducted a small-scale survey and asked participants to use as many adjectives as possible to express their emotions toward Japanese people. We compiled a final list of the words appearing most frequently, removing those that were redundant or not suitable for the current research context. We then compared the resultant list with those emotion-describing items highlighted in past intergroup research (e.g. Glick *et al*., 2006; Leonard *et al*., 2011), retaining six items. Participants were instructed: 'how accurately do you think the following words depict your emotions towards Japanese people?' A five-point Likert scale was used with response options ranging from 1 (not accurate at all) to 5 (very accurate). Positive emotions were represented

by three indicators: 'admiration' ($M = 2.93$, $SD = 1.15$); 'liking' ($M = 2.39$, $SD = 0.99$); and 'trusting' ($M = 3.01$, $SD = 1.04$) ($\alpha = 0.68$). Negative emotions were represented by three indicators: 'disgust' ($M = 2.45$, $SD = 1.25$); 'contempt' ($M = 2.19$, $SD = 1.13$); and 'frustration' ($M = 2.63$, $SD = 1.20$) ($\alpha = 0.79$). The two indices were then employed as indicators of the latent variable 'Intergroup emotions' in accordance with the item-parcelling procedure.

Perceived competence of Japanese people. Two items were utilized to assess views on the efficiency and capability of the Japanese people. Participants were instructed: 'to what extent do the following words depict Japanese people accurately?' Items were 'capable' and 'efficient'. Response options ranged from 1 (not at all) to 5 (very much) ($r = 0.468$, $p < 0.001$).

Concern for victims. This latent variable was measured with three items. Respondents were instructed: 'to what degree do the following statements apply to your situation?: "I am willing to donate money to the quake victims", "I discuss my concern about victims with others", and "I pray for the Japanese victims" ' ($\alpha = 0.80$). A five-point Likert scale was used with response options ranging from 1 (not at all) to 5 (very much).

Results

In our sample all respondents reported knowing of the Fishing Island clash. Only nine participants stated that the Sino-Japan war had nothing to do with them. Forty-seven people reported that they donated money to Japanese earthquake victims with the amount of donation ranging from 2 to 500 RMB ($M = 60.53$ RMB, equivalent to about \$9, $SD = 79.29$ RMB). However, 32.8% participants 'agreed or strongly agreed' that they were willing to donate money to Japanese victims.

The conceptual model was tested with latent structural equation techniques. Correlations and descriptive statistics of major variables are presented in Table 1. AMOS version 18 was used for data analysis. Results indicated the model fitted the data well: $x^2 = 124.446$, d.f. = 47, $p < 0.001$, SRMR = 0.038, CFI = 0.960, GFI = 0.970, IFI = 0.960, RMSEA = 0.049 (CI = 0.039~0.060). The model accounted for approximately 64.9% variance of intergroup emotions, 28.0% of perceived competence of Japanese people, and 41.2% of concern for victims.

Discussion

Results showed that the image of Japan and historical conflicts significantly predicted emotions towards the Japanese

Table 1 Zero-order correlations between main variables

	Resource	Social	Power	War	Fishing	Pos-emo	Neg-emo	Capable	Efficient	Donate	Discuss	Pray
Resource	–											
Social	0.396***	–										
Power	0.376***	0.333***	–									
War	–0.170***	–0.100**	–0.093*	–								
Fishing	–0.082*	–0.076*	–0.011	0.337***	–							
Pos-emo	0.249***	0.267***	0.155***	–0.315***	–0.264***	–						
Neg-emo	–0.182***	–0.182***	–0.092*	0.439***	0.344***	–0.451***	–					
Capable	0.284***	0.204***	0.137***	–0.131**	–0.124**	0.374***	–0.207***	–				
Efficient	0.221***	0.153***	0.072	–0.097*	–0.050	0.174***	–0.140***	0.466***	–			
Donate	0.050	0.077*	0.094*	–0.269***	–0.204***	0.370***	–0.359***	0.129**	0.085*	–		
Discuss	0.076*	0.132**	0.081*	–0.183***	–0.195***	0.390***	–0.347***	0.099**	0.076*	0.582***	–	
Pray	0.024	0.084*	0.030	–0.180***	–0.117**	0.346***	–0.294***	0.087*	0.085*	0.506***	0.624***	–
M	2.16	0.99	0.71	3.09	3.57	2.77	2.42	3.86	0.4.13	0.3.01	3.09	3.01
SD	0.91	1.08	1.21	1.35	1.09	0.83	1.00	0.89	0.95	1.30	1.17	1.32

Note. ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. Discuss: discuss concern; Donate: willingness to donate; Fishing: Fishing Islands; Neg-emo: negative emotion; Pos-emo: positive emotion; Power: perceived power; Pray: pray for victims; Resource: perceived resources; Social: social wellbeing; War: China–Japan war.

people. Specifically, the more positive an image one had of Japan, the stronger positive emotions one held towards the Japanese people. The more one viewed historical frictions negatively, the stronger the negative emotions held towards Japanese people. A positive perception of Japan also led to higher perceived competence of the Japanese people, which negatively predicted concern for the victims. Positive emotions positively affected concern for the victims.

Our results also indicate that intergroup emotions are proximal predictors of concern for the victims, and mediated the effects of Japan's image and intergroup conflicts on altruism. In addition, perceived competence weakly and negatively predicted altruism. Expressed another way, group-level emotions are important factors in driving intergroup help. As such, enhancing positive and mitigating negative emotions between groups is of great importance for collective help in natural disaster contexts. Prior research has consistently supported the notion that emotions are strongly related to cognition and attitude (Slovic, Finucane, Peters & MacGregor, 2007). Emotions can influence, shape or even bias one's analysis and understanding of external information. Therefore, a person's emotion toward Japanese people could serve as a prism through which that person views and responds to the disaster and victims.

There are several limitations that merit discussion here. First, the cross-sectional design may limit the confidence in the causal sequence in the final model. The sample was restricted to universities on the eastern coast of China. Due to cultural and geographical variations, data from other regions (e.g. heartland regions) could lead to different results. Readers should note that while descriptive statistics showed that a significant percentage of respondents did show altruistic intentions, intentions do not necessarily guarantee actual behaviour. That said, future research should explore actual helping behaviour in disaster contexts.

Further, although the current study focused on two important frictions between Japan and China, there may exist other events that also impact intergroup attitudes. For example, Japanese reactions to the Sichuan earthquake in China in 2008 may also directly or indirectly influence Chinese attitudes toward the Japanese as a nation.

Finally, in this paper we did not intend to present an exhaustive list of factors that might impact on concern for the victims. Rather, we intended to highlight the often overlooked influence of intergroup dynamics. Nonetheless, the importance of other factors should be acknowledged. For example, cultural factors may also influence the willingness to donate to earthquake victims. China is often described as a highly collectivistic country (Hofstede, 2003), where strong boundaries between the in-group and out-group mean that donations to other nations in distress are less likely (Levine *et al*., 2005). China itself has a history of tragic earthquakes (the largest mortality rate following an earthquake resulted from the Shanxi earthquake of 1923, where an estimated 823 000 people died (US Department of the Interior, 2011). Future research could investigate if having experienced a disaster might enhance help extended to others who suffer similar events.

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