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Citation for final published version:

Ng, Andy H. , Hynie, Michaela and MacDonald, Tara K. 2012. Culture moderates the pliability of ambivalent attitudes. *Journal of Cross-Cultural Psychology* 43 (8) , pp. 1313-1324. 10.1177/0022022111429718

Publishers page: <https://doi.org/10.1177/0022022111429718>

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Running Head: CULTURE AND ATTITUDINAL AMBIVALENCE

Culture Moderates the Pliability of Ambivalent Attitudes

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Word Count: 6,078

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Authors' Note: This research was conducted as part of the requirements of the first author's Master's degree and was presented at the Annual Convention of the Canadian Psychological Association in 2010. We would like to thank Georges Monette and Mirka Ondrack for their assistance with statistical analyses. We would also like to thank the associate editor and the anonymous reviewers for their helpful comments on earlier drafts of this manuscript.

Funding: This research was supported by a York University Research Cost Fund awarded to the first author.

Note: This is the post-refereeing final draft. The published version of this article can be found on the publisher's website: <https://journals.sagepub.com/doi/10.1177/0022022111429718>

Abstract

Ambivalent attitudes are comprised of conflicting components. In response to this evaluative conflict, North Americans are more likely to change high ambivalent attitudes than low ambivalent attitudes (Bassili, 1996). However, East Asians exhibit greater tolerance for inconsistencies than do North Americans (Peng & Nisbett, 1999). Hence, we hypothesized that culture would interact with ambivalence in influencing the degree of attitude change in response to a persuasive attempt. Results indicated that culture significantly moderated the relationship between ambivalence and attitude pliability, such that ambivalence and the degree of attitude change were positively associated for European Canadians but not for East Asian Canadians. These results add to the extant literature on attitudinal ambivalence, demonstrating cultural variability in the pliability of ambivalent attitudes.

Word Count: 120

KEYWORDS: cross-cultural differences; attitudes and attitude change; attitudinal ambivalence; East Asian

Culture Moderates the Pliability of Ambivalent Attitudes

Attitudes are a useful construct for predicting behavior and influencing information processing. Thus, attitudes have been a staple construct in social psychology. However, although much is known about attitude structures and processes, less is known about whether and how these structures and processes vary by culture. The purpose of this paper is to explore one particular aspect of attitudes, that of attitudinal ambivalence, from a cross-cultural perspective.

Eagly and Chaiken (1993) define attitude as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (p.1). But what if attitude-relevant information is not consistently positive or negative? For example, many people associate positive attributes with lawyers (e.g., they are smart and ambitious) but at the same time, some negative attributes are also commonly associated with lawyers (e.g., they are ruthless and duplicitous). Thus, it is quite common to have an attitude that is comprised of beliefs that are inconsistent in valence, known as attitudinal ambivalence (Thompson, Zanna, & Griffin, 1995).

Ambivalent attitudes are comprised of inconsistent attitude components. Hence, having ambivalent attitudes is associated with emotional tension (Hass, Katz, Rizzo, Bailey, & Moore, 1992; Newby-Clark, McGregor, & Zanna, 2002). This aversive feeling is hypothesized to motivate people to resolve the inconsistency within an attitude to arrive at a more desirable consistent state by shifting one’s ambivalent attitude to be either more positive, or more negative. Consequently, ambivalent attitudes are more pliable than non-ambivalent attitudes with equivalent overall valence.

A considerable amount of evidence has demonstrated this amplified pliability of ambivalent attitudes. Armitage and Conner (2000, Study 2) conducted a classic attitude change study, examining hospital workers' attitudes and ambivalence about low-fat diets before and after reading a persuasive message (experimental condition) or a message with basic information only (control condition) about consuming a low-fat diet. Results indicated that, for high ambivalent respondents, post-message attitudes of the experimental group were significantly more positive than that of controls, whereas, for low ambivalent respondents, the experimental and control groups' post-message attitudes did not differ. This demonstrates that high (vs. low) ambivalent attitudes are more prone to change in response to persuasive attempts.

Similar results have been found for other attitude objects. For example, Maio, Bell, and Esses (1996) found greater attitude shifts among ambivalent participants who read a strong message supporting immigration from Hong Kong than among those who read a weak message, or those who were not ambivalent, and Bassili (1996) found a positive relationship between level of ambivalence and attitude pliability in attitudes toward pornography and hateful expression. Furthermore, results from MacDonald and Zanna (1998) suggest that the instability of high ambivalent attitudes also has consequences for behavioral intentions. They found that participants who expressed high ambivalence toward feminists (but not those who expressed low ambivalence) were more likely to report intentions to hire a feminist candidate when positive qualities about the candidate were primed than when negative qualities about the candidate were primed. Nevertheless, one major limitation that is common to these studies is that the samples are from Western cultures (i.e., people of European descent). Thus, it remains an empirical question whether high ambivalent attitudes are more pliable than low ambivalent attitudes in other cultural contexts.

Cultural Differences in the Need for Consistency

The essence of attitudinal ambivalence and ambivalence-induced attitude change concerns how much people embrace and how people reason about inconsistent information. In Western cultures, ambivalent attitudes are conceived of as something undesirable that individuals are motivated to eliminate and increased pliability is one outcome of this process. Nonetheless, recent research suggests that the way people process conflicting information varies cross-culturally and the need to maintain consistency seems to be substantially lower in some non-Western cultures.

Influenced by the Chinese religion Taoism, East Asians endorse a dialectical worldview that appreciates contradictory information (Peng & Nisbett, 1999). Peng and Nisbett (1999, Study 5) found that when American participants read two seemingly contradictory passages, their belief in the more plausible passage was greater than that of the two groups of American participants who saw either one of the two passages alone. However, Chinese participants' ratings of plausibility for both reports depolarized, relative to the Chinese participants who read either one of the two passages alone. Their results suggest that the Chinese may be quite comfortable with inconsistency, retaining elements of both contradicting pieces of information rather than endorsing one piece of information and discounting the other side entirely.

Tolerance for inconsistent information is also exhibited in how East Asians view and evaluate themselves. Choi and Choi (2002) found that Koreans are more flexible and inconsistent in their self-concepts than Americans, and more likely to be influenced by the valence of the question they are answering about themselves. Moreover, identity consistency does not predict subjective well-being of Koreans as strongly as it does that of Americans, suggesting, once again, that East Asians might be more comfortable with inconsistency (Suh,

2002). Likewise, Chinese participants exhibited more evaluative inconsistency than Americans in their attitudes toward the self, seeing the self as both positive and negative (Spencer-Rodgers, Peng, Wang, & Hou, 2004).

In the present research our goal was to extend the cultural literature on the high tolerance for inconsistency among those of East Asian descent to attitudinal ambivalence. We contend that a high tolerance for inconsistency among East Asians may make ambivalent attitudes more stable and thus no more pliable than non-ambivalent attitudes, unlike people of European heritage. This is theoretically interesting because persuasive attempts in our societies are usually directed toward changing attitudes that are ambivalent. For example, in the North American context, Whites' attitudes toward minority group members are usually ambivalent (Katz & Hass, 1988; Bell, Esses, Maio, 1996). Thus, the literature on response amplification suggests that attitudes and behaviors toward racial minorities are prone to change in response to situational cues that are salient at the moment (Hass, Katz, Rizzo, Bailey, & Eisenstadt, 1991). Likewise, attitudes toward unhealthy habits, such as smoking, are usually ambivalent (Lipkus, Green, Feaganes, & Sedikides, 2001). Hence, health policymakers and practitioners hope to change those ambivalent attitudes by highlighting the negative aspects of those objects (e.g., the Canadian practice of putting a graphic image of cancer on cigarette packages). This persuasive method works relatively well on North Americans, increasing smokers' desire to quit (Hammond, Fong, McDonald, Cameron, & Brown, 2003). However, if ambivalent attitudes are relatively stable among East Asians, the same persuasive tactics may not work as well in East Asian context and is consistent with the finding that East Asians are less inclined to change their opinions over time in response to opposing evidence, compared with Westerners (Chiu, Morris, Hong, & Menon, 2000).

As reviewed above, East Asians seem to exhibit higher acceptance of conflicting information when compared to people of European heritage (Peng & Nisbett, 1999; Spencer-Rodgers et al., 2004; Schimmack, Oishi, & Diener, 2002) and increased pliability of high (vs. low) ambivalent attitudes seems to be a consequence of motivation to resolve conflicting evaluations (Bell & Esses, 2002; Clark, Wegener, & Fabrigar, 2008). Therefore, we hypothesized that culture would moderate the relationship between individual differences in ambivalence and the magnitude of attitude change. Specifically, it was expected that among people of European descent, high ambivalent individuals would change their attitudes to a higher degree than low ambivalent counterparts in response to a persuasive attempt, consistent with previous research (e.g., Armitage & Conner, 2000; Bassili, 1996; Maio, Bell, & Esses, 1996). By contrast, it was expected that people of East Asian descent would be less likely to exhibit this relationship.

In a pretest, Canadians of East Asian and European descent were compared on individual differences in ambivalence toward a variety of everyday objects. The purpose of this pretest was to identify two objects that we would use in the main study. To explore generalizability of our proposed cultural effect along a relatively large range of ambivalence levels, we sought to identify one object toward which most East Asian Canadians and European Canadians tend to have low to moderate levels of ambivalence (low ambivalence object) as well as one object toward which most East Asian Canadians and European Canadians tend to have moderate to high levels of ambivalence (high ambivalence object).

In the main study, we assessed whether culture moderates the effect of ambivalence on the degree of attitude change. As described previously, East Asians tend to tolerate conflicting information to a higher degree than Westerners. Thus, it was expected that the effect of

ambivalence on attitude change would be stronger on European Canadians than on East Asian Canadians.

Pretest

Method

Participants

One hundred and thirteen (73 female, 40 male) East Asian Canadians and 203 (135 female, 68 male) European Canadians completed this study, which was advertised as a study about attitudes toward everyday objects and issues. Of the 113 East Asian Canadian participants, 71 (63%) were born in an East Asian country (e.g., China, Korea) and 91 (81%) reported using an East Asian language at home. For those Foreign-born East Asian Canadian participants, the average length of residence in Canada was 13.5 years ($SD = 4.90$). The mean age was 20.4 years ($SD = 2.28$) for East Asian Canadians and 21.6 ($SD = 5.73$) for European Canadians.

Participants were recruited from a psychology undergraduate participant pool at a Canadian University, as well as through posters on campus and announcements by research assistants in classrooms.

Materials

First, a pool of attitude objects was adapted from prior attitudinal research (Bargh, Chaiken, Govender, & Pratto, 1992). Eight objects about which North Americans tend to have relatively high levels of evaluative conflict were selected. These high ambivalence objects were knives, dormitories, exams, parties, television, dentists, cake, and ice-cream. In terms of overall evaluations, these high ambivalence objects are associated with slightly negative (knives, exams, dentists) to positive ratings (dormitories, parties, television, cake, ice-cream). Another eight objects were selected from those that North Americans tend to have relatively low levels of

evaluative conflict. Among these eight low ambivalence items, four items are predominantly positive (flowers, silk, clowns, dancing) and four items are predominantly negative (cancer, mosquitoes, crime, tooth cavities). It was believed that Canadian university students from the two cultural backgrounds are likely to have similar knowledge of and experience with these attitude objects.

Procedure

Participants completed this study online. Consenting participants were asked to report basic demographic information and to evaluate the 16 everyday objects separately on both positive and negative characteristics, as well as to give an overall evaluation score and a rating of attitude strength for each object.

To indicate their overall evaluation of the objects, participants provided a number between 0 and 100, where 0 indicates “extremely unfavorable” and 100 indicates “extremely favorable”. Positive attitude was measured using a unipolar 4-point scale, so that participants were asked to indicate their evaluation of the positivity of the object when considering only the favorable characteristics of the object, from 1 = “not at all favorable” to 4 = “extremely favorable”. Similarly, negative attitude was measured using a unipolar 4-point scale, so that participants were asked to indicate their evaluation of the negativity of the object when considering only the unfavorable characteristics of the object, from 1 = “not at all unfavorable” to 4 = “extremely unfavorable”. Attitude strength was measured using a 7-point scale, where 1 indicates “very weak” and 7 indicates “very strong”.

Results and Discussion

First, an ambivalence score for each object was calculated for each participant using the Griffin formula (Thompson et al., 1995), where ambivalence = (positive + negative/2 - |positive

– negative]. This ambivalence score reflects individual differences in the degree of ambivalence toward a particular object and has a range of -0.5 (extremely low ambivalence) to 4 (extremely high ambivalence). The ambivalence scores of all objects were then ranked within the two cultural groups and the object “dormitories” appeared in the top three ambivalent objects for both cultural groups. There was not any significant difference in ambivalence level between the two cultural groups, $t < 1$ (East Asian Canadians: $M = 1.67$, $SD = 0.78$; European Canadians: $M = 1.57$, $SD = 0.83$). There was not any significant difference in overall attitude between the two cultural groups, $t < 1$ (East Asian Canadians: $M = 55.54$, $SD = 20.49$; European Canadians: $M = 53.49$, $SD = 21.39$). *Dormitories* was thus chosen as the high ambivalent object because it elicited similarly high levels of ambivalence and similar levels of overall attitude among both East Asian Canadians and European Canadians.

Following this, all ratings of objects within the two cultural groups were ranked according to their overall evaluation scores. Three objects that seemed to have similar overall evaluation scores to the target object *dormitories* were selected within each culture. *Silk* was the only object for which there was not any cultural difference in overall evaluations, $t(309) = -1.30$, $p = .20$ (East Asian Canadians: $M = 62.98$, $SD = 19.97$; European Canadians: $M = 66.11$, $SD = 20.61$). In terms of ambivalence, there was a significant difference in ambivalence of the two objects, collapsing across the two cultural groups (*dormitories*: $M = 1.60$, $SD = 0.86$; *silk*: $M = 1.22$, $SD = 0.97$), $F(1,560) = 55.06$, $p < .001$, $\eta^2 = .09$. Finally, there was a marginally significant cultural difference in ambivalence toward the object *silk*, $t(313) = 1.90$, $p = .06$ (East Asian Canadians: $M = 1.35$, $SD = 0.97$; European Canadians: $M = 1.14$, $SD = 0.97$). Although there was a marginally significant cultural difference in ambivalence toward the object *silk*, it was chosen as the low

ambivalent object because it elicited similar levels of overall evaluation but lower levels of ambivalence than did *dormitories* among both East Asian Canadians and European Canadians.

In sum, when compared with the relatively high ambivalent object *dormitories*, the relatively low ambivalent object *silk* elicited lower levels of ambivalent attitudes but similar levels of overall evaluations for both East Asian Canadians and European Canadians. Thus, we selected *dormitories* and *silk* to be used as the attitude objects in the main study.

Main Study

The main study was conducted to examine how culture and ambivalence interact in influencing attitude pliability. Consistent with the literature on ambivalence and attitude pliability (e.g., Armitage & Conner, 2000), we adapted a pre-post experimental manipulation design to assess how the degree of attitude change might differ as a function of individual differences in ambivalence toward the attitude object in response to a persuasive attempt. Specifically, overall attitudes and individual differences in ambivalence toward *dormitories* and *silk* were measured in a separate testing session several weeks before participants were presented with two persuasive essays, one about *dormitories* and one about *silk*. Overall attitudes toward these two objects were measured again after being presented with these two essays. The degree of attitude change was inferred from post-essay attitudes after statistically controlling for baseline (pre-essay) attitudes. We hypothesized that culture and ambivalence would interact in influencing post-essay attitudes, such that for European Canadians, those with high ambivalence would exhibit a greater degree of attitude change in response to a persuasive essay than those with low ambivalence. In contrast, we expected that among East Asian Canadians, the relationship between individual differences in ambivalence and the degree of attitude change

would be substantially weaker, compared with European Canadians. We also sought to explore whether this cultural effect would be similar across the two objects.

Method

Participants

Eighty-seven (64 female, 23 male) East Asian Canadians and 131 (110 female, 21 male) European Canadians completed this study, which was advertised as a study about personality, attitudes, and information processing. Of the 87 East Asian Canadian participants, 40 (46%) were born in an East Asian country (e.g., China, Korea) and 71 (82%) reported using an East Asian language at home. For those foreign-born East Asian Canadian participants, the average length of residence in Canada was 9.7 years ($SD = 4.57$). The mean age of participants was 20.0 years ($SD = 3.99$) for East Asian Canadians and 20.1 ($SD = 4.40$) for European Canadians. European Canadian and East Asian Canadian participants did not differ in their age, $F < 1$. Participants were recruited from a psychology undergraduate research participant pool at a Canadian University.

Materials and Procedure

The measures and procedure employed in this study followed closely those established in attitudinal ambivalence research (e.g., Armitage & Conner, 2000; Bell & Esses, 2002). Overall evaluations of the two objects (pre-essay attitudes) were collected from an online questionnaire administered as part of a large pretesting session held at the beginning of the school year. Overall attitudes toward the high ambivalent object *dormitories* and the low ambivalent object *silk* were rated on 0 to 100 thermometer-like continuous scales (Haddock, Zanna, & Esses, 1993). In the main study session, which was conducted online several weeks later in the middle of the school year, consenting participants first completed some demographic questions. Positive

attitudes and negative attitudes about *dormitories* were then rated on separate 4-point unipolar rating scales, from 1 = not at all favorable (unfavorable) to 4 = extremely favorable (unfavorable). Positive attitudes and negative attitudes about *silk* were then measured using the same two unipolar rating scales. Participants then completed the Dialectical Self Scale (DSS; Spencer-Rodgers, Srivastava, & Peng, 2001, as cited in Spencer-Rodgers, Peng, Wang, & Hou, 2004). This measure consists of 32 items, rated on a 7-point rating scale, measuring individual differences in dialectical thinking. Sample items include, “There are always two sides to everything, depending on how you look at it” and “Believing two things that contradict each other is illogical” (reverse-scored). However, this measure did not correlate with any of the dependent variables and was therefore omitted from further analyses.

Participants then read two essays: they were randomly assigned either a 233-word positive essay or a 248-word negative essay about *silk* and then randomly assigned either a 255-word positive essay or a 274-word negative essay about *dormitories*. The essays were identical except for the inclusion of seven to nine sentences. In these sentences, the positive essays highlighted positive attributes of the attitude object (e.g., “First, living in a dorm room is usually cheaper than living in a room or sharing an apartment off campus. In addition, the cost of living in a residence hall sometimes includes other perks as well, such as phone, TV cable, or internet, and thus further lowers the overall cost of attending university”) whereas the negative essays emphasized negative attributes of the attitude object (e.g., “First, living in a dorm room is usually more expensive than living in a room or sharing an apartment off campus. In addition, for many schools, it is mandatory to purchase a meal plan and the price is usually more expensive than cooking your own meals, thus further increasing the overall cost of attending university”).

After reading the essays, overall evaluations of *silk* and *dormitories* (post-essay attitudes) were probed using 4 questions, rated on 9-point bipolar rating scales. The 4 questions were “how much do you like/dislike dormitories (silk)”, “how good/bad do you believe dormitories (silk) are”, “overall, how favorable/unfavorable are you toward dormitories (silk)”, and “overall, how positive/negative is your evaluation of dormitories (silk)”. Different scales were used to assess pre-essay attitudes and post-essay attitudes in an attempt to reduce demands for consistency.

Finally, participants completed a few manipulation check questions, such as “what is the first essay about” and “for the first essay, how positive/negative is it” (rated on 5-point scale, from very negative to very positive).

Results and Discussion

Manipulation Check

An independent groups ANOVA confirmed that, as a group, participants perceived the appropriate valence of the essays in their assigned conditions, such that participants assigned to the positive essay conditions perceived the valence of the essay to be more positive than those assigned to the negative essay conditions (*silk*, $F(1, 215) = 470.96, p < .01, \eta^2 = .69$; *dormitories*, $F(1, 213) = 274.76, p < .01, \eta^2 = .56$). For each attitude object, to ensure that all participants included in the subsequent data analyses perceived the appropriate valence of the essay, participants who perceived the valence of the essay as neutral or opposite to their assigned conditions were excluded from subsequent analyses, leaving 167 participants for analyses involving the object *dormitories* (East Asian Canadians, 60; European Canadians, 107) and 177 participants for analyses involving the object *silk* (East Asian Canadians, 63; European

Canadians, 114). However, the pattern of results was generally the same when we included all participants in the data analyses.

Data Preparation and Preliminary Analyses

The scores of the four post-essay attitudes questions (Dormitories: East Asian Canadians, $\alpha = .93$, European Canadians, $\alpha = .96$; Silk: East Asian Canadians, $\alpha = .94$, European Canadians, $\alpha = .96$) were averaged for each participant. Then, the pre- and post-essay attitude scores in the negative essay condition were reverse-scored, such that the higher the score, the more extreme the attitude in the same valence as the essay.

Correlations among dependent variables (pre-essay attitudes, ambivalence, and post-essay attitudes for both objects) were examined separately by cultural group (see Table 1). For European Canadians, there was a positive correlation between ambivalence and post-essay attitudes of the object *dormitories*, $r(101) = .20$, $p = .04$. For both cultural groups, pre-essay attitudes were positively correlated with post-essay attitudes (*dormitories* for European Canadians: $r(97) = .58$, $p < .01$; *silk* for European Canadians: $r(99) = .64$, $p < .001$; *dormitories* for East Asian Canadians: $r(47) = .72$, $p < .01$; *silk* for East Asian Canadians: $r(48) = .77$, $p < .01$), demonstrating consistency in participants' attitudes toward the two objects at the two time points.

Culture, Ambivalence, and Post-Essay Attitudes

Our data set was multilevel because it involved repeated-measures data (each participant gave responses to both objects) for multiple variables. Therefore, to examine the moderating effect of culture on the relationship between individual differences in ambivalence and the magnitude of attitude change we performed multilevel analysis using R to reflect the dependencies between observations from the same participant, with first level addressing within-person variance and the second level addressing between-person variance (Snijders & Bosker,

1999). Pre-essay attitudes were used as a level 1 covariate. Attitude object (*silk* = 0; *dormitories* = 1) and individual differences in ambivalence were used as level 1 predictors. Culture (East Asian Canadian = 0, European Canadian = 1) was used as a level 2 predictor. Post-essay attitudes were used as the level 1 outcome variable. All continuous predictors were grand-mean-centered. The results were summarized in Table 2. The overall model was significant, $F(3, 133) = 59.83, p < .01$. Importantly, the cross-level interaction term of culture and ambivalence was significant, $\gamma = .38, p = .01$, indicating that the relationship between ambivalence and the degree of attitude change was qualified by culture. Simple slope analyses (see Figure 1) revealed that there was a significant positive relationship between ambivalence and post-essay attitudes among European Canadians, $b = .19, p = .04$, such that highly ambivalent European Canadian participants exhibited a greater degree of attitude change than low ambivalent European Canadian participants in the direction of the persuasive essay. However, there was no association between individual differences in ambivalence and the degree of attitude change among East Asian Canadian participants, $b = -.19, p = .12$.

In another model, we included all interaction terms involving attitude object (*silk* vs. *dormitories*). Results indicated that there was no significant difference between the two models, $F(3, 130) = 1.01, p = .39$, meaning that there was no significant improvement in predictability from our main model to this larger model. This suggests that our observed cultural effect was similar across the two attitude objects. Likewise, we included essay valence (negative vs. positive) and all interaction terms involving essay valence. Results indicated that there was no significant difference between the two models, $F(6, 127) = 0.66, p = .68$, meaning that there was no significant improvement in predictability from our main model to this larger model. This suggests that our observed cultural effect was similar across the two essay conditions. Finally,

we included essay valence as well as all other possible interaction terms up to 3-way interaction among the predictors in another model. Results indicated that there was no significant difference between the two models, $F(20, 113) = 0.67, p = .85$, meaning that there was no significant improvement in predictability from our main model to this larger model.

In sum, our main hypothesis was supported. Highly ambivalent European Canadian participants demonstrated attitude change to a higher degree than their low ambivalent counterparts. In contrast, for East Asian Canadian participants, no evidence was found to support a relationship between individual differences in ambivalence and the degree of attitude change. In addition, this cultural difference was not moderated by the attitude object or the valence of the persuasive essay.

General Discussion

In this research, we found evidence consistent with our hypothesis that culture moderates the relationship between ambivalence and attitude pliability. For European Canadians, individuals who have relatively high levels of ambivalence changed their attitudes in the direction of the persuasive message to a higher degree than those who have relatively low levels of ambivalence, replicating previous research (e.g., Armitage & Conner, 2000). This effect was not demonstrated for East Asian Canadians, whose degree of attitude change was not associated with their levels of ambivalence. Thus, our results extend the literature on ambivalence-induced attitude pliability by demonstrating that this process may not be culturally universal.

Implications and Future Directions

Previous research suggests that, relative to non-ambivalent attitudes, ambivalent attitudes are more responsive to situational or contextual influences, highlighting the relative instability of ambivalent attitudes in the Western context (Bell & Esses, 2002). However, the results of the

present research suggest that this may not be the case in East Asian cultures – people who show more tolerance for, or even an appreciation of, inconsistent information may be inclined to maintain their conflicted attitudes. Thus, other consequences of ambivalence found in the Western context may not hold true in an East Asian cultural context. For instance, there is evidence to suggest that inducing ambivalence promotes cognitive elaboration, engagement in more systematic processing of relevant information (Jonas, Diehl, & Brömer, 1997). However, this may not be the case for East Asians, as holding seemingly contradictory views of an issue may not elicit an uncomfortable psychological state. As such, the need to engage in increased cognitive effort to resolve the inconsistencies might be absent for people who engage in the East Asian cultural context.

There are also moderators of ambivalence that may be worth cross-cultural investigation. For example, Thompson and Zanna (1995) provide evidence that the need for cognition is negatively associated with holding ambivalent attitudes, presumably because, in the Western context, people who enjoy thinking are more likely to think about an issue and synthesize relevant information to form internally consistent attitudes. However, under the influence of a dialectical worldview, East Asians may tend to think that having a two-sided view of everything is a goal in and of itself without the intention to reconcile the inconsistencies. Hence, East Asians who enjoy thinking may be *more* likely to hold conflicting evaluations because this cognitive outcome matches their cultural orientation. Thus, need for cognition, as an individual difference variable, has the potential to interact with culture in predicting ambivalence.

It will also be worthwhile to investigate cultural differences in attitude change in response to other types of inconsistencies. East Asians often construe themselves in relational terms (Markus & Kitayama, 1991) and view normative information as highly diagnostic during attitude

formation (Aaker & Maheswaran, 1997). Consequently, while East Asians may not be more inclined to change an internally inconsistent (vs. consistent) attitude, they may be more inclined to change an attitude when it is inconsistent to an external source (e.g., attitudes of close others) than when it is not. As such, interpersonal attitudinal discrepancies (Priester & Petty, 2001) may have a stronger influence on attitude change among East Asians than among Westerners.

Conclusion

Relatively little research has been conducted in cross-cultural comparison in attitude structure and attitude change; to our knowledge, no research has assessed cultural differences in the consequences of holding high ambivalent attitudes. We found that whereas European Canadians are more likely to change high ambivalent attitudes than low ambivalent attitudes, East Asian Canadians do not exhibit this tendency. Increased understanding of the boundary conditions as well as moderators of ambivalence continues to attract attention from scholars because of important theoretical (e.g., attitude-intention-behavior relations; Armitage & Conner, 2004) and practical implications (e.g., prejudice toward minorities in North America; Katz & Hass, 1988). We have demonstrated that culture can moderate effects identified in attitude research that have been found using participants of European descent. It may be worthwhile for future research to continue to investigate cultural differences in the antecedents and consequences of attitude formation and structure.

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Table 1. Correlations among Variables

	Pre-Essay Attitudes (silk)	Pre-Essay Attitudes (dormitories)	Ambivalence (silk)	Ambivalence (dormitories)	Post-Essay Attitudes (silk)
East Asian Canadian participants					
Pre-Essay Attitudes (dormitories)	.01				
Ambivalence (silk)	-.24	.10			
Ambivalence (dormitories)	-.38**	.13	.16**		
Post-Essay Attitudes (silk)	.77**	-.13	-.27	-.36*	
Post-Essay Attitudes (dormitories)	-.08	.72**	.12	.01	-.09
European Canadian participants					
Pre-Essay Attitudes (dormitories)	.09				
Ambivalence (silk)	-.21*	-.06			
Ambivalence (dormitories)	0.14	0.1	.12		
Post-Essay Attitudes (silk)	.64**	.04	-.10	.07	
Post-Essay Attitudes (dormitories)	.05	.58**	-.10	.20*	.07

* $p < .05$ (two-tailed).
** $p < .01$ (two-tailed).

Table 2. Results of Multilevel Modeling Analyses of Post-Essay Attitudes

Variable	Unstandardized Estimates	Standard Errors	<i>t</i>	<i>p</i>
<i>Level 1 main effects</i>				
Pre-Essay Attitudes	.04	.00	15.72	< .01
Attitude Object	.80	.14	5.81	< .01
Ambivalence	.00	.08	0.01	.99
<i>Level 2 main effect</i>				
Culture	.23	.15	1.57	.12
<i>Cross-level interaction</i>				
Culture x Ambivalence	.38	.15	2.51	.01

Note: Attitude object: silk = 0; dormitories = 1. Culture: East Asian Canadian = 0, European Canadian = 1. Main effect of ambivalence was estimated by averaging across the two cultures. Main effect of culture was estimated at the grand mean of ambivalence.

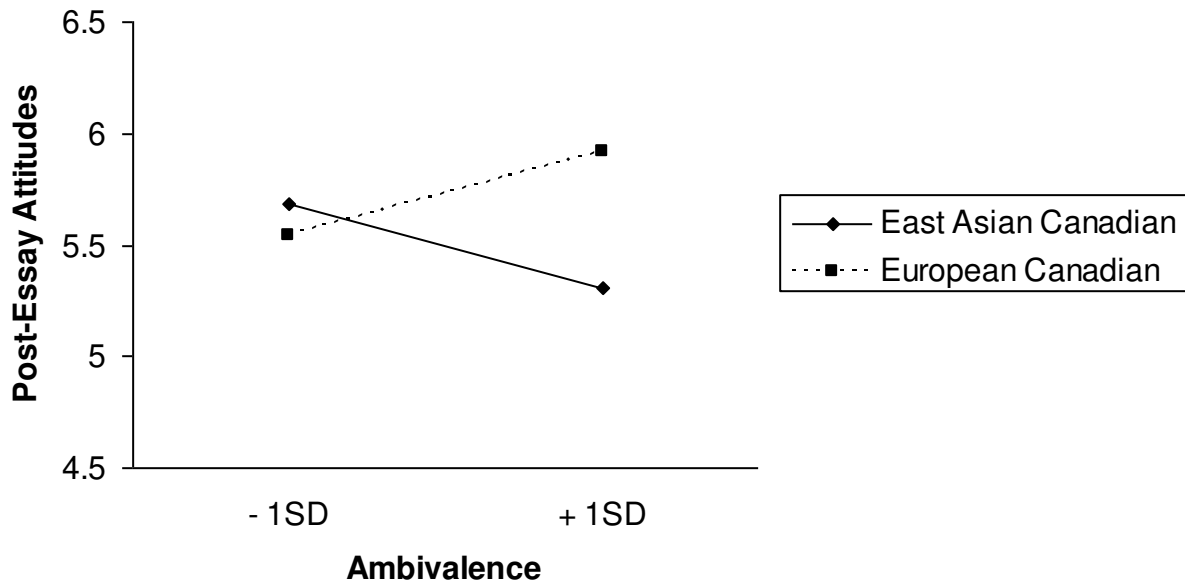


Figure 1. The Relationship between Ambivalence and Post-Essay Attitudes for East Asian Canadian and European Canadian Participants

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