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Influence of Cultural Meaning System and Socioeconomic Development on Indecisiveness in Three Cultures

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Abstract

Psychologists have debated two external factors that influence human behaviors: current socioeconomic changes and historically shared cultural meaning systems. By conducting triangular comparisons among Hong Kong Chinese, mainland Chinese and European Canadians, the current study examined whether these two factors differentially influence people's indecisiveness. We found that (*i*) Hong Kong Chinese participants' level of indecisiveness was highest, and there were no differences between the two other groups; (*ii*) dialectical beliefs facilitated participants' indecisiveness while optimism toward the future attenuated it across cultures and both factors explained cultural variations in indecisiveness; and (*iii*) different from European Canadians' optimism, optimism about the future promoted by rapid societal change made mainland Chinese more decisive. The importance of within-region analyses to disentangle varying factors in decision-making processes is discussed.

Keywords: socioeconomic changes; cultural meaning systems; cultural difference; indecisiveness; dialecticism

Influence of Cultural Meaning System and Socioeconomic Development on Indecisiveness in Three Cultures

Psychologists have experienced theoretical divides when they study individuals' psychological and behavioral tendencies. Some theorists have emphasized socioecological factors, such as changes in socioeconomic structures in a given society (Inglehart, 1997) and mobility (e.g., Oishi & Graham, 2010), whereas some theorists have emphasized historically accumulated cultural meaning systems shared in a given context (Bruner, 1990; Geertz, 1973; Markus & Kitayama, 1991; Nisbett, 2003, Nisbett & Masdua, 2003; Sahlins, 1976; Shweder, 1991). However, few studies have addressed which of these factors influence specific psychological processes. In the current research, we highlight the importance of disentangling the influences of current changes in social structures as well as historically shared cultural meaning systems in order to better understand inconsistent cultural variations in decision making, notably people's indecisive tendency, which is the general tendency to experience difficulty during decision-making processes.

Indecisiveness, Cultural Meaning Systems, and Societal Change

Indecisiveness is defined as the tendency to experience difficulty across decision making contexts. People high in indecisiveness are more likely to feel reluctant to reach the final decision (Germeijs & DeBoeck, 2002), try to avoid making decision (Germeijs & DeBoeck, 2002), take long time to make decisions (Frost & Shows, 1993) and keep worrying about the decisions they have made (Rassin & Muris, 2005).

Dialecticism and Indecisiveness. Dialecticism~~, which~~ refers to a constellation of lay cultural beliefs regarding how the world is organized (Peng & Nisbett, 1999). According to the review of Spencer-Rodgers, Williams, and Peng (2010), dialecticism consists of three major principles: 1) expectation of change, in which people perceive change to be a constant

phenomenon; 2) holistic worldviews, refer to perceiving the interdependence of relationships among objects in the universe; and 3) tolerance of contradictions, in which people perceive that two opposing views can coexist. Dialectical people tend to be more indecisive. Prior work demonstrated that people high in dialecticism were more likely to have ambivalent experiences, including ambivalent attitudes (e.g., Hamamura, Heine, & Paulhus, 2008; Ng, Hynie, & MacDonald, 2012) and inconsistent self-concepts (e.g., Spencer-Rodgers, Boucher, Peng, & Wang, 2009). This dialectically induced ambivalent experience makes dialectical people experience more difficulties during decision making, which results in higher indecisiveness. In addition to the evidence obtained in the self-report survey, Li et al. (2014) provided direct evidence for the causal linkage from dialecticism to indecisiveness, in which participants who were primed with dialectical beliefs took longer time to reach their final decision than those were primed with non-dialectical beliefs.

The score in dialecticism explains not only individuals' variation in indecisiveness but also cultural variation in indecisiveness. Prior cross-cultural research has found systematic cultural variations in dialecticism, which showed that people from East Asian cultures (e.g., Japanese and Chinese) are more dialectical than those from North American cultures (e.g., European Americans) (e.g., Spencer-Rodgers et al., 2009). More importantly, prior work showed that the cultural variation in dialecticism explained cultural variation in indecisiveness. In general, East Asians tend to be more dialectical, which in turn makes them more indecisive than European North-Americans (Li et al., 2015; Ng & Hynie, 2015).

Optimism about the future and Indecisiveness. Optimism about the future is defined as the general tendency to hold positive expectation of the outcomes in the future events (Sheier & Carever, 1985). Optimism about the future has been found to be negatively associated with

indecisiveness. Due to a higher level of confidence and a greater sense of control (Carver & Scheier, 1981), people high in optimism are more likely to be risk-taking (Felton, Gibson, & Sanbonmatsu, 2003) and actively and confidently make a decision (Carver & Scheier, 1999), which contributes to higher decisiveness for their decision making (Hurley, 2004; Pennington & Roese, 2003). In other words, people high in optimism about the future are expected to be less indecisive.

Some evidence suggests that optimism about the future may vary across cultures. Research finding that positive self-regard was highly correlated with optimism about the future (Chang, 2002; Chang, Sanna, & Yang, 2003; Fischer & Leitenberg, 1986) suggests that optimism is cultivated more easily in the North American cultures. Due to the prevalence of independent beliefs, positive self-regard is highly valued in North American cultures; whereas positive self-regard is not strongly promoted in East Asian cultures due to the endorsement of interdependence (Heine, Lehman, Markus, & Kitayama, 1999). Therefore, prior work found that North Americans were more optimistic about the future than East Asians in general (Chang, Sanna, & Yang, 2003; Lu, Wadlinger, Fung, & Issacowitz, 2007). Taking together with the evidence indicating that optimism about the future reduces indecisive tendency, it is expected that North Americans have higher optimism about the future than do East Asians, which leads to lower scores in indecisiveness among North Americans.

Inconsistent cross-cultural findings in Indecisiveness. Based on the expectation of cultural variation in dialecticism and optimism between the East and the West, and the facilitating influence of dialecticism and the attenuating influence of optimism about the future in indecisiveness, it would suggest a systematic cultural variation in indecisiveness between East Asian and North American cultures – East Asians, who would be expected to be more dialectical

and less optimistic about the future, would be more indecisive in general than North Americans. However, cross-cultural studies showed mixed findings regarding the level of indecisiveness among East Asian populations. Some studies indeed found East Asians were more indecisive than North Americans (e.g., Li et al., 2014; Ng & Hynie, 2014; Yates et al., 2010) whiles some studies showed no difference in indecisiveness between the East and the West (e.g., Yates et al., 1998, 2010).

These findings in indecisiveness research involving East–West comparisons reveal a robust inconsistency within East Asian data. To be specific, unlike other East Asian groups, who showed strong indecisive tendencies in general, Chinese in mainland China were found to be as decisive as their counterparts in North America in some research (Yates et al., 1998; 2010). It suggests that mainland Chinese seem to be less indecisive than other East Asian cultures. To date, a clear explanation of what causes this regional difference is lacking. On one hand, previous studies found similar level of dialecticism in East Asian groups (e.g., Zhang, Galbraith, Yama, Wang, & Manktelow, 2015). On the other hand, prior cross-cultural research in positive self-regards, which is one of the sources of optimism, found that, similar to other East Asians, mainland Chinese had lower scores in global self-esteem and self-competence than of their counterparts in North America (e.g., Spencer-Rodgers, Peng, Wang, & Hou, 2004; Tafarodi & Swann, 1996). Taking together, the existing evidence suggested that dialecticism and positive self-regards would not be able to explain regional difference in indecisiveness among East Asian societies.

To better understand this phenomenon, the current research investigated the potential influence of socioecological factors, perceived societal change, to provide a more comprehensive picture for understanding the regional difference in indecisiveness in East Asia. To be specific,

we speculated that the source of optimism about the future can differ across societies. Whereas the source of optimism about the future is because of positive self-regards in North America, the experiencing of rapid socioeconomic growth in mainland China may cultivate a higher level of optimism about the future among mainland Chinese, which eventually helps to reduce their indecisiveness.

Societal Change. There is one salient difference between mainland Chinese and other East Asian cultural groups. Compared with people in other societies, mainland Chinese were experiencing great changes. Economic development in China has progressed rapidly since the country established its open door policy in the 1980s. Later, becoming a member of the World Trade Organization (WTO) in 2001 brought wide-ranging societal changes, including diversifying bank system, opening of foreign companies, and flourishing of private sectors in China, and all these changes resulted in a further explosive growth in economic development. These changes were indicated by the GDP per capita, which was increased by 5 times (from 1023 USD to 5345 USD) in a decade, making itself the world's second largest economy.

The socio-demographic data indicated regional differences in socioeconomic change. China is an economically rapid developing society in which the GDP per capita increased from 528 USD in 1993 to 6,807 USD in 2013. In contrast, Hong Kong, a postindustrial society in East Asia, has similar GPD change trend as of in North America. Its GDP per capita increased from 20,162 USD in 1993 to 38,039 USD in 2013, and the GDP per capita in Canada, a postindustrialized North American society, increased from 20,046 USD in 1993 to 52,270 USD in 2013 (United Nations, 2013). Suggested by the objective indicators, we expect that, mainland Chinese, who are living in a rapid developing society, perceive greater societal changes than do

Hong Kong Chinese and European Canadians, who are living in economically developed~~stable~~ societies.~~.~~

In addition, the rapid societal development does not only bring changes in people's daily life, but this experience of societal change also influences people's psychological processes. Suggested by prior work (e.g., Schug, Yuki, & Maddux, 2010), the perception of socioecological characteristics of a given society affects people's psychological processes. Experiencing/ perceiving socioeconomic growth in contemporary China may make mainland Chinese especially likely to foresee a better future in general. The prior work supported this assumption: mainland Chinese were found to have optimistic expectations about their future income and happiness levels (Frijter, Liu, & Meng, 2012) as well as societal and economic future development (e.g., Cheng et al. 2010; Jiang et al., 2014; Kashima et al., 2011). Because of this unique experience of rapid development, mainland Chinese are expected to be more optimistic about their future relative to other East Asians, who do not share with this experience, but as optimistic as North Americans, whose optimism is cultivated by their independent beliefs.

The linkage from perceived societal change to optimism about the future may not apply to all societies. The experience of rapid societal changes among mainland Chinese may lead them to have distinct psychological responses to perceived societal change while compared with people from economically stable postindustrial societies. Note that~~-~~ current research examined the societal change that relates to the actual experience of current socioeconomic changes undergoing in a given societies instead of the socioeconomic status a given society has achieved. Previous research suggests that whether people had the real past experience of societal change matters a lot in influencing their imagination of future (Cheng et al., 2010; Kashima et al., 2011). In Cheng et al.'s study (2010), they found that mainland Chinese, who had real experience of

rapid economic growth, reported their expectation of societal change different from Hong Kong Chinese, who did not have real experience of rapid economic growth but just witness it. Similarly, Jiang et al. (2014) found that mainland Chinese were more optimistic about future than Hong Kong Chinese. Therefore, we expect that the linkage from societal change to optimism about the future may be moderated by the fact that whether people actually experience the economic growth, in which a stronger linkage from societal change to optimism about the future is expected among mainland Chinese, who are actually experiencing the rapid development, compared with Hong Kong Chinese and European Canadians, who are in an socioeconomically stable societies.~~.~~

Overview of Current Research

To better investigate the influences of experiencing~~recent~~ changes in socioeconomic structures (vs. experiencing stable socioeconomic structures) and endorsement of dialectal cultural system (vs. non-dialectical cultural system), we recruited Chinese in mainland China, Chinese in Hong Kong, and European Canadian in Canada. By collecting data from these three cultural groups and using the triangulation procedure, we attempted to disentangle the influence of dialecticism (as an indicator of a historically shared meaning system in East Asia) and the influence of optimism about the future (as an indicator of a historically shared meaning system in North America) by comparing culturally different but socioeconomically similar cultures, i.e., European Canadians and Hong Kong Chinese, and the influence of optimism about the future (as an indicator of societal change due to current economic growth in China) by comparing culturally similar but socioeconomically different cultures, i.e., mainland Chinese and Hong Kong Chinese, on indecisiveness.

Hypothesis 1: Dialecticism and optimism about the future explain cultural differences in indecisiveness, and the patterns are similar across cultures.

According to the prior work, we expect that both dialecticism and optimism about the future would predict individuals' indecisiveness, in which dialectical beliefs would make people more indecisive whereas optimism about the future would attenuate participants' indecisive tendency across cultures.

When we compare mainland Chinese and Hong Kong Chinese, members of two socioeconomically different but culturally similar cultures, we expect to observe differences in optimism about the future due to the different experiences in economic growth but cultural similarities in dialectical beliefs due to the shared East Asian heritage culture. The expectation of cultural similarity in ~~optimism~~ dialecticism about the future indicates that it would not be the reason causing cultural difference in indecisiveness if we observe any. The difference in optimism about the future would explain the cultural difference in indecisiveness, in which mainland Chinese would have higher level of optimism about the future, which may lower their indecisiveness cultivated by dialectical beliefs. This would eventually make mainland Chinese have lower scores in indecisiveness than do Hong Kong Chinese.

When we compare European Canadians and Hong Kong Chinese, from two socioeconomically similar but culturally different cultures, we expect two cultural groups would differ in both dialectical beliefs and optimism about the future. This expectation is based on the fact that North Americans generally have a strong positive self-regard based on their independent beliefs, which promotes optimism about the future among European Canadians; whereas dialectical beliefs are more prevalent in East Asian cultures due to the prevalence influence of Daoism and Buddhism (e.g., Hamamura et al., 2009; Li, Masuda, & Russell, 2014). The

facilitating influence by dialectical beliefs and the attenuating influence by optimism about the future would eventually make Hong Kong Chinese more indecisive than European Canadians.

Finally, when we compare European Canadians and mainland Chinese, from two economically and culturally different cultures, we expect that mainland Chinese would be more dialectical than European Canadians, as suggested by prior work (e.g., Hamamura et al., 2009; Li, Masuda, & Russell, 2014). The higher score in dialectical beliefs among mainland Chinese would make them more indecisive than European Canadians. In contrast, we expect that optimism about the future in the two cultures may be similar, although due to different causes. High optimism about the future is due to the promotion of positive self-regard among European Canadians whereas high optimism about the future among mainland Chinese is promoted by socioeconomic change. The expectation of cultural similarity in optimism about the future indicates that it would not be the reason causing cultural difference in indecisiveness if we observe any. In short, we expect that mainland Chinese would be more indecisive than European Canadians due to higher level in dialectical beliefs.

Hypothesis 2: Experience of Societal Change makes mainland Chinese less indecisive via increasing people's optimism about the future.

To gather more evidence supporting that high optimism about the future is attributed to the experience of rapid societal change, we examined whether experience of societal change would increase people's optimism about the future, which eventually lowers indecisive tendencies. As we indicated in the previous section, the linkage between the experience of societal change and optimism about the future may vary across cultures, depending on whether people indeed have the real experience of societal change (Kashima et al., 2011). The effect of societal change would be strongest amongst those who have experienced societal change first hand~~The effect of societal~~

~~change would be stronger when we have the actual experience of societal change~~. Therefore, we expect that culture would moderate the link between societal change and optimism about the future. In other words, we propose a moderated mediation model: the effect of societal change on indecisiveness via raising optimism about the future will be moderated by cultural background, in which the effect of societal change on raising optimism about the future will be stronger among those who are experiencing rapid economic growth, i.e., mainland Chinese. Specifically, societal change may not predict optimism about the future among European Canadians and Hong Kong Chinese, who are living in an economically stable society. In contrast, explosive economic growth would promote optimism about the future in China, which suggests a significant link between societal change and optimism about the future.

Method

Participants

To better investigate the influences of recent changes in socioeconomic structures and historical cultural meaning systems, we recruited 112 European Canadian students (30 males; Age_{mean} = 19.77, *SD* = 3.96) at the University of Alberta in Canada, as a representative group of postindustrialized and non-dialectical societies in North America, 110 Chinese students (46 males; Age_{mean} = 19.65, *SD* = 1.05; 50% Southerners and 50% Northerners) at the Central University of Finance and Economics in Beijing, China, as a representative group of developing and dialectical societies in East Asia, and 112 Chinese students (35 males; Age_{mean} = 20.05, *SD* = 1.65) at the Chinese University of Hong Kong in Hong Kong, as a representative group of postindustrialized and dialectical societies in East Asia. There was no age difference in three cultural groups, $p = .47$. We found a marginally significant difference in gender, $\chi^2 = 5.95$, p

= .051, but the gender effect was non-significant in all our dependent variables, *p*s > .09. Therefore we collapsed both gender for the final analyses.

Measures

Indecisiveness. Participants completed 15-item indecisiveness scale (Frost & Shows, 1993; European Canadians: α = .84; Mainland Chinese: α = .83; Hong Kong Chinese: α = .81), measuring general indecisiveness in decision making (1: Strongly disagree; 7: Strongly agree). Sample items for this scale are, "It seems that deciding on the most trivial thing takes me a long time", and "I always know exactly what I want" (reverse-scored item).

Dialectical Beliefs. Participants completed 32-item Dialectical Self Scale (DSS; Spencer-Rodgers et al., 2010; European Canadians: α = .82; Mainland Chinese: α = .58; Hong Kong Chinese: α = .66), with a scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Sample items for this scale are, "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 item).

Optimism about the Future. We used the 10-item Future Time Perspective Scale (Carstensen & Lang, 1996; European Canadians: α = .74; Mainland Chinese: α = .81; Hong Kong Chinese: α = .76) to measure how optimistic they perceive about their future with the scale ranging from 1 (Very untrue) to 7 (Very true). Sample items of this scale are, "Many opportunities await me in the future", and "There are only limited possibilities in my future" (reverse-scored item).[1]

Perceived Societal Change. To study the influence of societal change, we measured participants' perception of societal change. Participants answered two questions regarding their perception of societal change ((European Canadians: $r = .54$, $p < .001$; Mainland Chinese: $r = .55$, $p < .001$; Hong Kong Chinese: $r = .78$, $p < .001$). These items are, "The society (in terms of

environment, systems, and living styles) changes so dramatically" and "The society (in terms of environment, systems, and living styles) has been changed a lot since I was born", with a scale ranging from 1 (Strongly disagree) to 7 (Strongly agree).

Participants answered demographic questions, including age and gender, at the end of the study. The questionnaire was written in English in Canada, traditional Chinese in Hong Kong and simplified Chinese in China. The original English items were translated to Chinese by the first author, and it was checked by another Chinese-English bilingual. Discrepancies were solved through discussions between two translators.

Results

Preliminary analyses

Table 1 shows the descriptive data and the results of the analyses for cultural differences in different variables used in the current research.

Cultural Differences in Indecisiveness. We conducted a one-way ANOVA and found a significant main effect of culture, $F(2, 331) = 23.40$, $p < .001$, $\eta_p^2 = .12$.The post-hoc comparisons, which were corrected by Bonferroni method to prevent Type I error inflation, revealed that the indecisiveness score of mainland Chinese ($M = 3.42$, $SD = .82$) was similar to that of European Canadians ($M = 3.67$, $SD = .87$), although the difference was approaching to be significant, $p = .057$, whereas Hong Kong Chinese ($M = 4.14$, $SD = .67$) reported significantly higher indecisiveness scores than both mainland Chinese, $p < .001$, and European Canadians, $p < .001$. The results, which showed that the level of indecisiveness among mainland Chinese was closer to North Americans but not other East Asian groups, were consistent with previous work (e.g., Yates et al., 2010).

Cultural Difference in Dialectical beliefs. The one-way ANOVA showed a significant main effect of culture, $F(2, 331) = 57.70$, $p < .001$, $\eta_p^2 = .26$. Consistent with previous cross-cultural research (e.g., Spencer-Rodgers et al., 2010), the post-hoc comparisons corrected by Bonferroni method showed that two East Asian groups (mainland Chinese: $M = 4.16$, $SD = .40$; HK Chinese: $M = 4.22$, $SD = .33$) were equally dialectical, $p = .88$, and they were more dialectical than European Canadians ($M = 3.64$, $SD = .59$), ps $< .001$.

Cultural Differences in Optimism about the future. The one-way ANOVA showed a significant main effect of culture, $F(2, 331) = 21.57$, $p < .001$, $\eta_p^2 = .12$. Consistent with our expectation, the post-hoc comparisons corrected by Bonferroni method showed optimism scores of mainland Chinese ($M = 5.35$, $SD = .92$) was similar to that of European Canadians ($M = 5.48$, $SD = .74$), $p = .62$, whereas Hong Kong Chinese ($M = 4.83$, $SD = .69$) reported significantly smaller optimism scores than both mainland Chinese and European Canadians, ps $< .001$.

Cultural Difference in perceived Societal Change. The one-way ANOVA showed a significant main effect of culture, $F(2, 330) = 5.05$, $p = .007$, $\eta_p^2 = .03$. The post-hoc comparisons corrected by Bonferroni method showed perceived societal change of mainland Chinese ($M = 5.72$, $SD = 1.02$) was significantly higher than of European Canadians ($M = 5.27$, $SD = 1.13$), $p = .005$, whereas Hong Kong Chinese ($M = 5.51$, $SD = 1.02$) reported similar scores to that of both mainland Chinese, $p = .43$, and European Canadians, $p = .26$. Our expectation was partially supported in which mainland Chinese reported greater societal change though the difference in perceived societal change between mainland Chinese and Hong Kong Chinese was not statistically significant.

Simple Correlations among Variables. The results indicated that the three cultural groups showed similar patterns regarding the effects of dialecticism and of optimism about the

future on their level of indecisiveness. Participants high in dialectical beliefs were in general more indecisive (European Canadians: $r = .50$, $p < .001$; mainland Chinese: $r = .41$, $P < .001$; Hong Kong Chinese: $r = .46$, $p < .001$), and participants high in optimism about the future were in general less indecisive (European Canadians: $r = -.21$, $p = .02$; mainland Chinese: $r = -.37$, $p < .001$; Hong Kong Chinese: $r = -.25$, $p = .009$) (see Table 2). The findings support our expectation that dialecticism and optimism about the future are important factors in explaining indecisiveness.

Hypothesis 1: Differing Effects of Dialecticism and Optimism about the Future on Indecisiveness.

We assumed that dialectical beliefs and optimism about the future would differently influence people's indecisiveness across cultures. Therefore, we ran multiple mediational analyses for all possible pairs of cultural comparisons among the three cultural groups. For each comparison between cultural groups (European Canadians vs. Hong Kong Chinese, mainland Chinese vs. European Canadians, mainland Chinese vs. Hong Kong Chinese), we entered participants' cultural background as the independent variable, and simultaneously, the values of dialectical beliefs and optimism about the future as the mediators into the model for predicting participants' indecisiveness. We then conducted multiple mediational analyses using 5,000 bootstrap samples and a bias corrected confidence interval (Preacher, Rucker, & Hayes, 2007). The mediator is significant when the 95% confidence intervals (CI) do not contain zero.

First, when we compared European Canadians and Hong Kong Chinese (i.e., entering this cultural comparison pair as the independent variable), the mediation analyses indicated that both dialectical beliefs (95% CI = .30, .61) and optimism about the future (95% CI = .02, .19) were significant mediators for explaining the difference in indecisiveness between European

Canadians and Hong Kong Chinese. For these groups, the score for dialectical belief was positively associated with indecisiveness ($b = .74$, $p < .001$) and the score for optimism about the future was negatively associated with indecisiveness ($b = -.15$, $p = .02$). Higher dialectical belief scores and lower optimism about the future scores among Hong Kong Chinese made them more indecisive than European Canadians (see Fig. 1*A*).

Second, when we compared mainland Chinese and Hong Kong Chinese, optimism about the future (95% CI = .07, .23) was a significant mediator, but dialectical beliefs (95% CI = −.02, .15) were not. The score for optimism about the future was negatively associated with indecisiveness ($b = -.26$, $p < .001$). The lower score in optimism about the future among Hong Kong Chinese made them more indecisive than mainland Chinese (see Fig. 1*B*).

Third, when we focused on the cultural comparison between European Canadians and mainland Chinese, two socioeconomically and culturally different cultures, dialectical beliefs (95% CI = .25, .54), but not optimism about the future (95% CI = −.02, .10), was a significant mediator, in which the score in dialectical belief was positively associated with indecisiveness ($b = .72$, $p < .001$). Although we did not find a significant cultural difference in the level of indecisiveness between these two cultural groups, the difference in dialectical beliefs, as a mediator, was still found to explain indecisiveness (see Fig. 1*C*).

These analyses revealed that the influence of dialectical beliefs and optimism about the future help to explain individual differences in indecisiveness among the three cultural groups, in which dialectical beliefs promote indecisiveness whereas optimism about the future attenuates indecisive tendency. More importantly, we found that optimism about the future explained the difference in indecisiveness between mainland Chinese and Hong Kong Chinese. Taking together, dialectical cultural meaning system continues to cultivate indecisiveness among

mainland Chinese but high optimism about the future among mainland Chinese reduces their indecisiveness cultivated by dialecticism. Hypothesis 2 further attempted to articulate how societal change promotes the unique characteristics of the decision-making style of mainland Chinese.

Hypothesis 2: The role of Societal change on Optimism about the Future

Hypothesis 2 stated that societal change made mainland Chinese less indecisive via increasing optimism about the future. We tested whether a high level of optimism about the future can be attributed to mainland Chinese people's perceptions of societal change, and whether ~~induced~~ high optimism about the future reduces the indecisive tendencies of people.

In order to test the possible moderation effect of cultural groups on the link between perceived societal change and optimism about the future, we ran a moderated mediation model using 20,000 bootstrap samples and a bias corrected CI, by following the procedures developed by Hayes (2012; Model 7). We entered perceived societal change as the independent variable, optimism about the future as the mediator, and cultural background as the moderator of the link between perceived societal change and optimism about the future in predicting participants' indecisiveness.

First, when we compared European Canadians and Hong Kong Chinese (i.e., entering this cultural comparison pair as the moderator), the effect of perceived societal change on optimism was not moderated by cultural background, $b = .07$, $p = .44$, although the level of optimism about future was negatively associated with indecisiveness with controlling the effect of cultural background and perceived societal change, $b = -.24$, $p = .001$. Consistent with regression results, the conditional indirect effect of perceived societal change on indecisiveness via optimism among European Canadians was not significant (95% CI = -.08, -.01) (see Figure 2*A*), in which

their perceived societal change did not predict optimism about the future (b = .09, p = .16) and indecisiveness (b = -.04, p = .59) although optimism about the future was significantly correlated with indecisiveness (b = -.24, p = .03). In contrast, the conditional indirect effect was significant among Hong Kong Chinese (95% CI = -.11, -.01) (see Figure 2*B*), in which their perceived societal change led to higher optimism about the future (b = .16, p = .01), which led to reduction in indecisiveness (b = −.23, p = .02). However, perceived societal change did not predict indecisiveness (b = −.07, p = .25).

Second, when we compared mainland Chinese and Hong Kong Chinese (i.e., entering this cultural comparison pair as the moderator), the effect of perceived societal change on optimism was moderated by cultural background, b = -.20, p = .046, which showed that the effect of perceived societal change on ~~indecisiveness~~ optimism among mainland Chinese (b = .36, p < .001) was significantly stronger than among Hong Kong Chinese (b = .16, p = .01). And the level of optimism about future was negatively associated with indecisiveness with controlling the effect of cultural background and perceived societal change, b = -.27, p < .001. Consistent with regression results, the conditional indirect effect of perceived societal change on indecisiveness via optimism among mainland Chinese (95% CI = -.23, -.06) (see Figure 2*C*) ~~and Hong Kong Chinese (95% CI = -.12, -.01) (see Figure 2*B*) were~~was ~~both~~ significant. ~~For mainland Chinese, p~~Participants who perceived greater societal change reported a lower level of indecisiveness (b = −.20, p = .008). This relationship was explained by optimism about the future, in which greater perceived societal change led to higher optimism about the future (b = .36, p < .001), and eventually lowered indecisiveness score (b = −.29, p = .001). Similarly, the conditional indirect effect of perceived societal change on indecisiveness via optimism among Hong Kong Chinese (95% CI = -.12, -.01) (see Figure 2*B*) was also significant. Their perceived societal change led to

higher optimism about the future (b = .16, p = .01), which led to reduction in indecisiveness (b = −.23, p = .02). However, perceived societal change did not predict indecisiveness (b = −.07, p = .25) (see Figure 2*B*).

Third, when we compared European Canadians and mainland Chinese (i.e., entering this cultural comparison pair as the moderator), the effect of perceived societal change on optimism was moderated by cultural background, b = .27, p = .007, which indicated that the effect of perceived societal change on optimism was significant among mainland Chinese, b = .36, p < .001, whereas it was non-significant among European Canadians, b = .09, p = .16. And the level of optimism about future was negatively associated with indecisiveness with controlling the effect of cultural background and perceived societal change, b = -.27, p < .001. The conditional indirect effect indicated that, for mainland Chinese, perceived societal change reduced indecisiveness by increasing optimism (95% CI = -.17, -.04) (see Figure 2*C*). For European Canadians, however, perceived societal change did not reduce indecisiveness because it had little effect on optimism (95% CI = -.07, .01) (see Figure 2*A*).

To summarize, these findings indicated that the perception of societal change reduced ~~significantly reduced~~ indecisiveness via increasing optimism about the future was significant ~~only~~ among both mainland Chinese and Hong Kong Chinese. However, ~~In addition,~~ the link from the perception of societal change to optimism about the future among mainland Chinese was the strongest among three cultural groups. These findings converge to suggest a stronger role of societal change on affecting decision-making styles among mainland Chinese, who are experiencing the rapid socioeconomic development.

Discussion

This study demonstrated the importance of considering both historical cultural meaning systems and contemporary socioecological factors for understanding people's psychological and behavioral tendencies. First, we found that dialectical beliefs, which are promoted by shared cultural meaning systems in East Asian cultures, and optimism about the future, which is promoted by shared cultural meaning systems in North American cultures, were significant predictors of indecisiveness and significant mediators explaining cultural variation in indecisiveness between two culturally different but socioeconomically similar societies. In addition, we found that lower indecisiveness among mainland Chinese, compared with other East Asian cultures, could be attributed to high optimism about the future, which was due to greater perceived societal change.

Inconsistent with our hypothesis, the results showed that perception of societal change among Hong Kong Chinese was as high as mainland Chinese and perception of societal change also promoted optimism about the future in both East Asian groups (though it was weaker among Hong Kong Chinese), despite that fact that mainland Chinese but not Hong Kong Chinese are experiencing rapid economic growth. One possible reason could be that, due to the proximity of geographical location and frequent economic trades between Hong Kong and mainland China, Hong Kong Chinese witness the rapid economic growth in mainland China and enjoy the benefits of economic growth in China. This experience made Hong Kong Chinese demonstrate similar psychological responses to societal change as their counterparts in mainland China. Further research should test this speculation.

The current research has several important implications. First, some fields such as cultural psychology and symbolic and interpretive anthropology, focus mainly on the role of historical cultural meaning systems (e.g., Markus & Kitayama, 1991; Nisbett, 2003), whereas other

research fields, such as economics and qualitative sociology, focus primarily on the role of socioecological factors in human behaviors, such as economic development (Inglehart, 1997) and residential mobility (for a review, Oishi & Graham, 2010). Here, we maintain that the interdisciplinary investigation of both factors is necessary in order to disentangle inconsistencies in cross-cultural findings and to articulate nuanced differences in people's psychological and behavioral tendencies. In the current study, we investigated the influence of one cultural meaning system, dialecticism, and one socioecological characteristic, societal change, on indecisiveness as a demonstration. Future research should continue to explore how different cultural meaning systems (e.g., collectivism/ individualism, and independence/interdependence) and socioecological characteristics (e.g., residential mobility, political systems, and pathogen threats) may simultaneously attribute to cultural variation in indecisiveness as well as all other domains.

Second, although prior cross-cultural psychological research focuses mainly on the differences between the East and the West (e.g., Nisbett & Masuda, 2003), only a few studies have systematically investigated regional differences within East Asia (Talhelm et al., 2014) and within North America (Markus & Conner, 2014; Nisbett & Cohen, 1996). The current study advances the discourse that psychologists should avoid generalizations about human psychological processes that are based only on North American college populations (Henrich, Heine, & Norenzayan, 2010). Our study provides evidence of regional differences between Hong Kong and mainland Chinese despite the fact that, as East Asians, they share similar historical cultural meaning systems. Future research comparing other regions that share similar historical backgrounds but different socioeconomic experiences may help to better disentangle a variety of influences on human behavior by controlling the potential confounding influences of historical cultural meaning systems.

Finally, the current research also provides some insights into the question of how culture reacts to socioeconomic development. Despite the rapid societal changes in mainland China, and the optimistic tendency of mainland Chinese, which is rather an anomaly in East Asian groups, their scores in dialectical beliefs remain similar to those of their counterparts in Hong Kong. It suggests that cultural meaning systems are persistent no matter what changes have taken place in the socioeconomic environment, which is consistent with previous studies in the study of modernization or globalization and cultural change (Esnerm 2007; Li & Bond, 2010). When we consider about optimism about the future, another picture is displayed. The perceived societal change made mainland Chinese have a high optimism, which is strongly cultivated in North Americans due to independent beliefs. The findings seem suggest that dialecticism but not optimism is resistant to the modernization processes. Furthermore, the correlational results showed that perceived societal change significantly predicted optimism but not dialecticism among mainland Chinese (see Table 2). Future research should continue studying the influence of development on cultural changes by systematically identifying and explaining what kind of psychological processes would be less resistant or more malleable to the societal development.

The current research is not without limitations. First, we assumed that the perception of societal change was mainly caused by the experience in the socioeconomic progress. However, the two-item measure we used in the current study could not differentiate the difference in the effect of socioeconomic change due to economic development, institutional change or the change due to other reasons that we have not discussed here. Future research should carefully address this issue with including comprehensive and specific items to articulate the effect of societal change and further differentiate the role of different types of socioeconomic change. Another limitation is that we did not examine the influence of objective socioeconomic changes. Despite

the fact that people's perception of societal characteristics has been found to be determined by the objective societal characteristics (e.g., Kashima et al., 2009; Schug, Yuki, & Maddux, 2010), and perceived societal characteristics affects people's psychological processes (e.g., Schug, Yuki, & Maddux, 2010), perceived societal change and objective societal change may have some distinct influences. To carefully investigate the influence of objective socioeconomic changes, future research should recruit participants from multiple societies with different degree of socioeconomic growth and test whether participants' indecisiveness scores correlate with the objective socioeconomic change in their societies. Next, although we demonstrated the roles of historical cultural meaning systems and societal change on people's psychological tendencies by focusing on East Asian dialectical societies, it is unknown whether similar patterns can be replicated among nondialectical societies. Future research should examine whether people from nondialectical societies would react differently to change in their societies. Moreover, we did not provide the evidence supported that promotion of positive self-regards is the source of optimism about the future among European Canadians. Future studies should provide direct evidence that can indicate the different causes of optimism among European Canadians and mainland Chinese. ~~Moreover~~Finally, our participants were young university students. Despite the fact the explosive economic growth in China began when China joined WTO in 2001, its economic development started in 1980s. These young mainland Chinese participants might not have the same experience of societal change as those who are old enough to experience the socioeconomic changes since the beginning of economic development. Future studies should examine whether different age groups experience societal change differently in China, and whether it would lead to the different psychological processes among different age groups.

Conclusion

Psychologists who investigate the influence of sociocultural characteristics on human behavior have selectively used different perspectives to understand how people react to societal change. By considering the influence of both perception of recent socioeconomic change and historically shared cultural meaning systems in indecisiveness, this study extends previous work in cross-cultural comparisons by explaining inconsistency in regional differences within East Asian cultures and differences between East and West. This triangulation methodology would allow researchers to isolate explanatory factors and articulate nuanced differences in human psychological processes in a variety of cultural milieux.

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Footnote

1. If we followed the procedure of Zacher and Frese (2009), which only analyzed the items regarding the opportunities in the future, the analysis yielded a significant effect of culture. Three cultural groups were significantly different from each other, in which European Canadians (M = 5.95, SD = .90) reported highest score, Hong Kong Chinese (M = 4.76, SD = .77) reported lowest score, and mainland Chinese group (M = 5.44, SD = 1.17) was in the middle. The results of all mediation analyses remained similar except for the mediation analysis for the comparison between mainland Chinese and European Canadians. In the new analysis, the indirect effect of future opportunities was significant, 95% CI = .04, .17.

Table 1. Mean scores and cultural differences of all measures in three cultures.

	European Canadians	Mainland Chinese	Hong Kong Chinese	*F*-test (ANOVA)
Indecisiveness	3.67 $_{a}$	3.42 $_{a}$	4.14 $_{b}$	F = 23.40, p < .001
	(.87)	(.82)	(.67)	
Dialectical Beliefs	3.63 $_{a}$	4.16 $_{b}$	4.22 $_{b}$	F = 57.70, p < .001
	(.59)	(.40)	(.33)	
Optimism about the future	5.48 $_{a}$	5.35 $_{a}$	4.83 $_{b}$	F = 21.57, p < .001
	(.74)	(.92)	(.69)	
Perceived Societal Change	5.27 $_{a}$	5.72 $_{b}$	5.51 $_{a/b}$	F = 5.05, p < .01
	(1.13)	(1.02)	(1.02)	

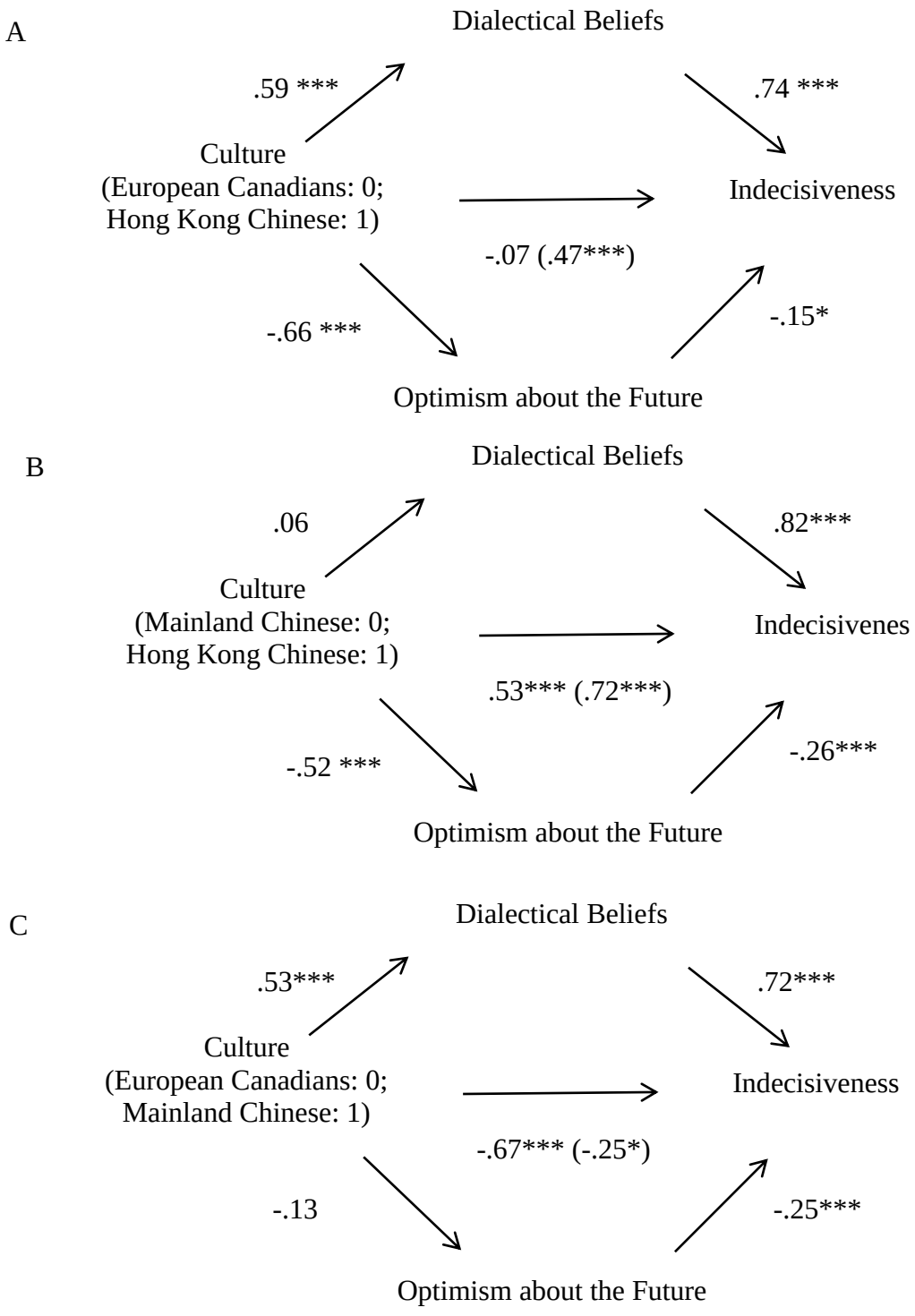
Note: Standard deviations are reported in parentheses. Different subscripts within each row indicate significant difference (adjusted with Bonferroni method) among three cultures at $p < .05$.

Table 2. Correlations among variables across cultures.

Cultural groups		1	2	3	4
European Canadians	Indecisiveness	-	.50***	-.21*	-.05
	Dialectical Beliefs		-	-.18	-.16
	Optimism about the future			-	.14
	Perceived Societal Change				-
Mainland Chinese	Indecisiveness	-	.41***	-.37***	-.25**
	Dialectical Beliefs		-	-.05	-.004
	Optimism about the future			-	.40***
	Perceived Societal Change				-
Hong Kong Chinese	Indecisiveness	-	.46***	-.25**	-.11
	Dialectical Beliefs		-	-.23*	-.03
	Optimism about the future			-	.23*
	Perceived Societal Change				

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

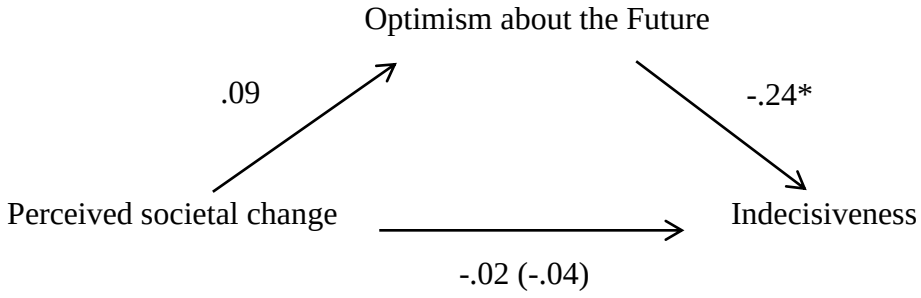
Fig.1. Mediation models for Dialectical beliefs and Optimism about the Future.



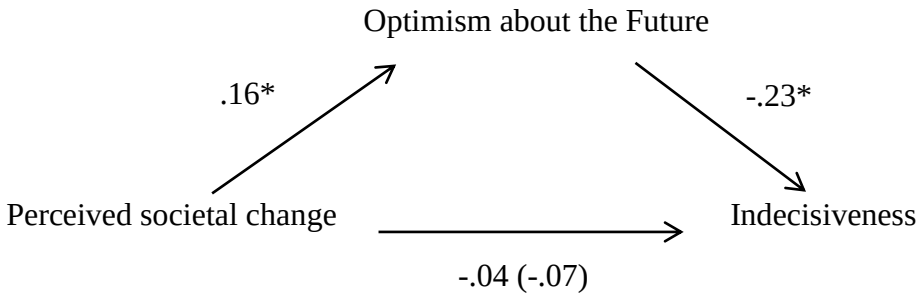
Note. All coefficients reported were unstandardized. *** $p < .001$; * $p < .05$.

Fig.2 Mediation models for the role of Optimism about the Future in explaining the relationship between societal change to indecisiveness in each culture.

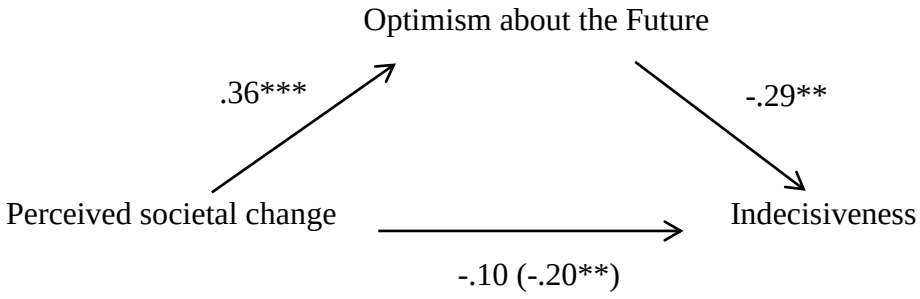
A: European Canadians



B: Hong Kong Chinese



C: Mainland Chinese



Note. All coefficients reported were unstandardized. *** $p < .001$; ** $p < .01$; * $p < .05$.