Culture and Stress Coping: Cultural Variations in the Endorsement of Primary and Secondary Control Coping for Daily Stress Across European Canadians, East Asian Canadians, and the Japanese

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Abstract

People's daily stress experiences differ across cultures. The current study examined how people cope with daily stress by applying primary and secondary control coping and how people change their strategies across situations (actual vs. ideal situations). European Canadians (n = 100), East Asian Canadians (n = 98), and the Japanese (n = 103) read 40 stress scenarios and judged their endorsement of stress coping strategies based on their actual primary and secondary control coping usage in the past, as well as their ideal preference of each coping strategy for each stress scenario. We examined whether primary versus secondary control coping usage differs across cultural groups. The results indicated the following. (a) European Canadians showed an overall usage for primary control coping over secondary control; however, there was no selection of primary control coping over secondary control coping for East Asian Canadians or the Japanese. (b) All cultural groups preferentially endorsed primary control coping over secondary control coping for their ideal preference of coping strategy. Nevertheless, the Japanese still showed more preference for endorsing secondary control coping as an ideal coping strategy compared to European Canadians. (c) There were mediational relationships between culture, independence, and the primary–secondary difference in control coping. (d) East Asian Canadians demonstrated a unique coping pattern, and we inferred that it reflected their multicultural

Key words: culture, stress, coping strategies, primary and secondary control coping, independent versus interdependent social orientations. identity.

As a student, you find the deadline of a term paper fast approaching and realize that you are also unprepared for other final exams. As a food server, you made a mistake on a client's order, and the customer starts yelling as you try to resolve the situation professionally. How would you cope in these day-to-day scenarios that elicit stress? Daily stress stemming from work, family, friendship, and other events, such as purchasing goods, commuting, and socializing, can have a complex effect on people's psychological and physical well-being (Bolger, DeLongis, Kessler, & Schilling, 1989). Stress can be subjectively interpreted according to a person's emotional and physical reactions towards the situation (Lazarus & Folkman, 1984).

Meanwhile, culture also shapes our interpretation of daily stressful experiences (Lee, Masuda, Ishii, Yasuda, & Ohtsubo, 2021). In line with previous investigations, the present study investigates cultural variations in stress coping by targeting three cultural backgrounds: European Canadians, East Asian Canadians, and the Japanese. We investigated to what extent people from different cultural groups endorse primary and secondary control coping as their stress coping strategy (Chun et al., 2006). In addition, we investigated whether people's actual coping strategies differ from their ideal coping strategies.

Culture, Social Orientations, and Stress

Over the past 40 years, cultural psychologists have examined variations in psychological processes across cultures. Findings suggest systematic cultural variations in cognition, emotion, and motivation between North Americans and East Asians (Markus & Kitayama, 2010; Masuda, 2017; Masuda et al., 2019; Varnum et al., 2010). Under the rubric of independent versus interdependent social orientations, researchers discuss how socially shared worldviews influence basic psychological processes (Varnum et al., 2010). In Western cultures (e.g., European-descent North Americans), people tend to hold independent social orientations that emphasize autonomy, self-direction, and self-expression; they perceive themselves as separate from others. On the other hand, people from East Asian cultures (e.g., Chinese, Japanese, and Koreans) tend to share interdependent social orientations that emphasize harmony and relatedness while perceiving themselves as interconnected through relationships. Literature on culture and well-being suggested that people's experiences related to daily stress and mental health are influenced by the endorsement of independent and interdependent social orientations (Chentsova-Dutton et al., 2010; Ryder et al., 2008). Extending this line of research revolving around distress to our observation of daily stress, we assume that daily stress experiences differ

across cultures. Therefore, we expect different cultural groups' stress coping to be different across cultures. To date, there is little research that directly answers this question.

Control Orientations, Control Coping Strategies, and Perceived Distress

People generally endorse two types of control orientations: primary and secondary control (Rothbaum et al., 1982). Primary control is defined as control through direct influence on the external environment. In contrast, secondary control is defined as control in which the individual accommodates to the situational demands to deal with the emotional distress. For decades, studies have examined individual differences in people's control orientations (Ashman et al., 2006; Seginer et al., 1993); this suggests that there are important generational differences in the level of endorsement of control orientations. Other studies have examined cultural variations in control orientations (Chang et al., 1997; Essau, 1992; Essau & Trommsdorff, 1996; Flammer, 1995; Morling et al., 2002; Trommsdorff & Iwawaki, 1989; Weisz et al., 1984). In general, findings have converged to demonstrate that primary control is more favored than secondary control in Western societies. In comparison, Eastern societies favored both types of control or demonstrated an inclination for secondary control.

While many scholars have examined people's control orientations and their sense of efficacy in their daily experiences, several researchers have applied the same logic to examine potential cultural variations in their coping strategies (Thunber & Weisz, 1997; Wrosch et al., 2000). Primary control coping aims to influence target people or events, whereas secondary control coping aims to maximize one's goodness of fit with target people or events as they are (Band & Weisz, 1988). As for the association between control coping strategies and dominant social orientations in a given culture, researchers further assume that individuals from independently oriented cultures (such as Western societies) are expected to use primary control coping. In contrast, individuals from interdependently oriented cultures (such as East Asian societies) are expected to use secondary coping (Chun et al., 2006; Cross, 1995; Lam & Zane, 2004).

Actual Versus Ideal Usage of Coping Strategies

The current paper further examines to what extent actual usage of primary and secondary control coping differs from ideal usage of each and how this difference can be associated with psychological distress. This has been relatively unexamined to date. The distinction between

ideal and actual behaviors has been first addressed in the context of self-perception under the name of self-discrepancy theory (Higgins, 1987). One can assume that cultural variations in coping strategies increase in the ideal condition where people emphasize cultural values when compared to the actual condition. In contrast, in the actual condition the effect of people's cultural values influencing their behavior will be attenuated due to psychophysiological constraints (Tsai et al., 2006).

Alternatively, one can assume that cultural variations in coping strategies become smaller in the ideal condition than the actual condition because, in the ideal condition, people can express themselves more freely from a variety of societal and cultural constraints that entail in the actual condition. While there is no direct evidence in the context of stress coping strategies, indirect evidence has been addressed in the context of people's choice behavior. For example, Hashimoto and Yamagishi (2015) demonstrated that Americans and the Japanese equally preferred to be like an independent person over an interdependent person when they were asked to judge which type of person they wanted to be. However, when the participants assessed these two persons and estimated how other people would assess these two persons, the Japanese assessed the independent person less favorably and the interdependent person more favorably while Americans still favored the independent person. Suppose we apply this logic to the framework of actual versus ideal stress coping strategies. In that case, we may assume that cultural variations would be smaller in the ideal condition than in the actual condition because people can express what they exactly endorse to cope, and in this case, primary coping would be preferred more than secondary coping due to its easier accessibility (Band & Weisz, 1988).

To date, few studies have cross-culturally examined actual versus ideal coping strategies. The current paper analyzed whether people's control coping strategies change across actual versus ideal situation, whether cultural variations become stronger or weaker in a particular situation, or whether cultural variations remain in both situations.

Current Study

Overall, the current paper aims to advance understanding of the interplay between culture and control coping strategies. We targeted three cultural groups: European Canadians, East Asian Canadians, and the Japanese. According to Statistics Canada (2017), most of theCanadian

population is composed of people of European descent (73%). Of the minority populations in Canada, East Asian Canadians comprise the largest and fastest-growing ethnocultural minority group (17.7%). Immigration is increasing exponentially, with immigrants and nonpermanent residents accounting for over 30% of the population all over Canada (Comanaru et al., 2018).

Previous findings have converged to suggest that multicultural individuals are exposed to a wide variety of stressors (Hong et al., 2000; Noels et al., 1996). This is not only because they are at risk of being discriminated against in the host society but also because of the increase in cognitive load required to balance the values of their heritage and host cultures. East Asian Canadians are a dominant minority group in Canada. We assumed that their stress experiences and endorsement of coping strategies would not be the same as their European Canadian or Japanese counterparts, who have consistent heritage cultures that match their society's mainstream values. We therefore included East Asian Canadians and examined the following issues for the current study, expecting that the target three cultural groups would demonstrate their unique patterns of control coping strategies.

First, we examined to what extent they would ideally use primary and secondary control coping to cope with the stress. We expected that people from each of the three cultures would prefer primary control coping to secondary control coping when they judged scenarios based on their preference (Band & Weisz, 1988; Hashimoto & Yamagishi 2015) compared to the case when they judged scenarios based on their actual usage.

Second, we examined cultural variations regarding how people have handled daily stress scenarios in their actual life and as an ideal preference using primary and secondary control coping. We inferred that there would be significant cultural variations when people are asked to read a series of daily stress-inducing scenarios and judge how they have dealt with them based on their actual experiences in the past. In line with the previous cross-cultural findings on control coping (Chun et al., 2006; Cross, 1995; Lam & Zane, 2004), we predicted that, when judging their actual experience (a) European Canadians would in general endorse greater actual primary control coping usage than the Japanese; (b) the Japanese would endorse greater actual usage of secondary control coping compared to European Canadians; and (c) East Asian Canadians would fall between European Canadians and the Japanese in terms of their actual primary and secondary control coping usage. We also predicted that (d) similar

cultural variations would remain when they were asked to judge how they would ideally deal with them, although the differences would be attenuated because they overall preferred primary to secondary control coping.

Third, we examined whether their social orientations (independence vs. interdependence) mediate the relationship between culture and usage/preference for the two types of coping strategies.We expected to find significant associations between independent and interdependent social orientations and the usages of coping strategies (Cross, 1995; Lam & Zane, 2004). For actual usage of coping strategies, we expected to find that the two types of social orientations mediate the relationship between culture and the actual usage of primary versus secondary control coping. We also explored whether these mediational patterns would change for people's ideal preference of coping strategies.

Finally, based on prior findings which maintain that inconsistency in one's experiences leads to reduced well-being (Liw & Han 2020; Tsai et al., 2006), we explored whether there are any culturally unique associations among European Canadians, East Asian Canadians, and the Japanese. We analyzed participants' level of psychological distress, and its correlations with participants' judgment on actual usages of primary/secondary control coping, ideal preferences of primary/secondary control coping, and the ideal–actual discrepancy of primary/ secondary control coping.

Method

Participants

One hundred European Canadian undergraduate students (66.6%female;Mage = 19.20 years, SD = 2.30 years; age range = 17–33 years) and 98 East Asian Canadian undergraduate students (57.1% female; Mage = 18.70 years, SD = 1.22 years; age range = 17–24 years) born in Canada from the University of Alberta, and 103 Japanese undergraduate students (55.3% female; Mage = 19.28 years, SD = 1.05 years; range = 18–23 years) born in Japan from Kobe University participated in this study. East Asian Canadians consisted of students with East Asian cultural backgrounds, including Chinese, Japanese, Korean, and Vietnamese. Participants received course credits at the University of Alberta or 1,500 yen (15 CAD) honorarium for participating in the study at Kobe University. A priori power analysis was conducted using G*Power 3.1.9.7 (Faul et al., 2009) to test the main effects and interactions between Culture

and Coping Type using medium effect size (f = .25), and an alpha level of .05. Results indicated that we needed a minimum of 159 participants to ensure a power of .80. The total number of participants for this study exceeded the criteria. This study received ethics approval from each respective university's ethics board.

Materials

Stress scenario task. We compiled 40 stress scenarios experienced by European Canadians and the Japanese from Lee et al.'s (2021) study. The materials covered a wide range of topics, such as family, employment, and school, to account for various sources of stress people experience in their daily lives. For the current study, we selected the 40 stress scenarios that occur most frequently across cultures based on Lee et al.'s (2021) dataset, which measured each participant's perceived likelihood of experiencing a similar scenario (overall $\alpha = .92$; European Canadians $\alpha = .93$, East Asian Canadians $\alpha = .93$, Japanese $\alpha = .88$). The chosen scenarios did not show any cultural differences in individuals' perceived likelihood and had higher ratings than other types of scenarios. We removed any personal and nongeneralizable information, such as the proper nouns of the occupation and the exact location. We simplified redundant expressions from the stress scenarios to make materials concise and generalizable for all participants. Examples of stress scenarios include "You put off doing a paper that is due in a day due to having constant assignments and quizzes beforehand. Today, you just read the instructions and realized that it is worth a lot more than you had previously imagined," and "During your parttime job in customer service, your co-workers blame you for something that you messed up on. However, they exaggerate the circumstances and take their frustration out on you as you try to fix the problem."

Independence versus interdependence scores. The Self-Construal Scale has a total of 23 items with 13 independent self-construal items and 10 interdependent self-construal items on a 7-point Likert scale (Kim et al., 2003; 1 = strongly disagree, 7 = strongly agree). The scale was used to measure the degree of independent (European Canadian $\alpha = .79$, East Asian Canadians $\alpha = .76$, Japanese $\alpha=.76$) and interdependent social orientations (European Canadians $\alpha = .60$, East Asian Canadians $\alpha = .70$, Japanese $\alpha = .81$). Results were independently averaged for each participant following the recommended procedure. One European Canadian participant did not fill out this score in the European Canadian data.

Distress score. We used the Center for Epidemiologic Studies Depression Scale, which consists of 20 items to measure people's subjective distress symptoms in the past week (Radloff, 1977). This scale has been used for both clinical and nonclinical populations and by researchers who investigate culture and well-being as a useful indicator to measure people's distress symptoms. Participants rated various symptoms on a 4-point Likert scale. Examples of items include "I was bothered by things that usually don't bother me" and "I did not feel like eating, my appetite was poor." The score ranged from 0 to 60, with higher scores representing greater distress symptoms (European Canadians $\alpha = .90$, East Asian Canadians $\alpha = .89$, Japanese $\alpha = .82$).

Procedure

Participants first signed a consent form upon arrival in the lab. They received instructions from a researcher to fill out a battery of questionnaires regarding the stress scenarios on a computer. The battery of questionnaires was programmed and randomized using Qualtrics Software (Qualtrics, 2020).

During the instruction session, participants were given a definition sheet for primary control coping and secondary control coping to reference while answering the questionnaire. The sheet indicates that primary control coping is broadly defined as "When people are stressed out in a given situation, they may attempt to directly change [influence] the situation to become less stressful based on their own wishes." Secondary control coping is "When people are stressed out in a given situation, they may attempt to accommodate themselves to the situational demands to lower their level of stress." On the definition sheet, it is noted that neither type of coping strategy is good nor bad but depends on an individual's perspective. Participants first completed a practice trial with examples of other people's usage of coping strategies and were asked to indicate if they were primary or secondary control coping for each scenario. This was done to help them clarify the concept of primary and secondary control coping after receiving feedback; they then moved on to the main session to answer questions about their personal selections.

In the main study session, participants were presented with 40 stress scenarios (Lee et al., 2021) and were asked to imagine to what extent they would use primary control coping or secondary control coping to cope with the stress. They answered the questions (a) to what extent they have endorsed primary versus secondary control coping strategies based on their actual experiences (actual usage); and (b) to what extent they would endorse primary and secondary control coping

as their ideal choice of coping (ideal usage).

Specifically, after being presented with each stress scenario, participants viewed the question "When you experienced similar situations, your likelihood of using primary control/secondary control coping to cope with the stress is" and rated the level of primary and secondary control coping usage based on their actual actions in the past on a 9-point Likert scale (1=never, 9=very much). After the actual usage selection, participants viewed the question "When imagining yourself in the situation above, how ideal is using primary control and secondary control coping to cope with the stress?" and again rated the level of primary and secondary control coping as their preferred mechanism of coping for each stress scenario on a 9-point Likert scale (1 = not at all, 9 = very much). We set this question structure as we expected that actual usage could be different or similar to the ideal usage for each type of coping strategy.

After participants completed the scenario judgment task for actual and ideal usage of coping strategies, they filled out the Self-Construal Scale and the Distress Score. Finally, participants completed a demographic questionnaire and were debriefed before leaving the lab.

Results

Overview of Ideal Versus Actual Usage of Primary and Secondary Control Across Cultural Groups

A 3 (Culture: European Canadian vs. East Asian Canadian vs. Japanese; between-Ss) X 2 (Type: Primary Control Coping vs. Secondary Control Coping; within-Ss) X 2 (Situation: Actual vs. Ideal) mixed-factorial analysis of variance (ANOVA) was conducted to examine the extent to which cultural groups endorse each type of coping strategy in actual versus ideal situations. There were main effects of Type, $F(1, 298) = 119.12$, $p < .001$, $\eta^2_p = .286$, indicating that overall, all cultural groups perceived more usage of primary control coping ($M = 6.22$, $SD = 0.86$) than secondary control coping ($M = 5.27$, $SD = 1.17$); and Situation, $F(1, 298) = 25.84$, $p < .001$, $\eta^2_p = .080$, showing that all groups perceived greater use of primary control coping in ideal situations ($M = 5.82$, $SD = 0.75$) than in actual situations ($M = 5.68$, $SD = 0.65$). However, the main effect of Culture was not significant, $F(2, 298) = 1.12$, $p = .327$. While the two-way interaction between Culture and Situation was not significant, $F(2, 298) = 0.05$, $p = .953$, we found significant two-way interactions between Culture and Type, $F(2, 298) = 11.353$, $p < .001$,

η^2_p= .071, and between Situation and Type, F(1, 298) = 180.01, p < .001, η^2_p = .377. The three-way interaction between Culture, Type, and Situation approached significance, F(2, 298) = 2.753, p = .065, η^2_p = .018.

We then explored the extent to which each group would endorse primary and secondary control coping strategies in ideal scenarios compared to actual scenarios. We conducted separate simple effect analyses for each cultural group. The results revealed similar patterns across cultures to show that people perceive greater preference for primary control coping in ideal situations relative to the extent to use it in actual situations (i.e., ideal vs. actual usage of primary control coping): European Canadians: 6.83 vs. 5.91, t(99) = 9.02, p < .001, Cohen's d = 0.944; East Asian Canadians: 6.82 vs. 5.81, t(97) = 11.08, p < .001, Cohen's d = 1.045; Japanese: 6.34 vs. 5.63, t(102) = 7.91, p < .001, Cohen's d = 0.730. In all groups, people also showed less preference for secondary control coping in ideal situations compared to the extent to use it in actual situations (i.e., ideal vs. actual usage of secondary control coping); European Canadians: 4.66 vs. 5.27, t(99) = -4.75, p < .001, Cohen's d = 0.437; East Asian Canadians: 4.89 vs. 5.64, t(97) = -6.17, p < .001, Cohen's d = 0.557; Japanese: 5.37 vs. 5.79, t(102) = -4.23, p < .001, Cohen's d = 0.388. These results support our speculation based on a logic from Hashimoto and Yamagishi's (2015) theoretical framework, which maintain that in ideal scenarios where there are no social constraints, all groups would prefer primary control coping over secondary control coping to cope with daily stressful situations (see Figure 1).

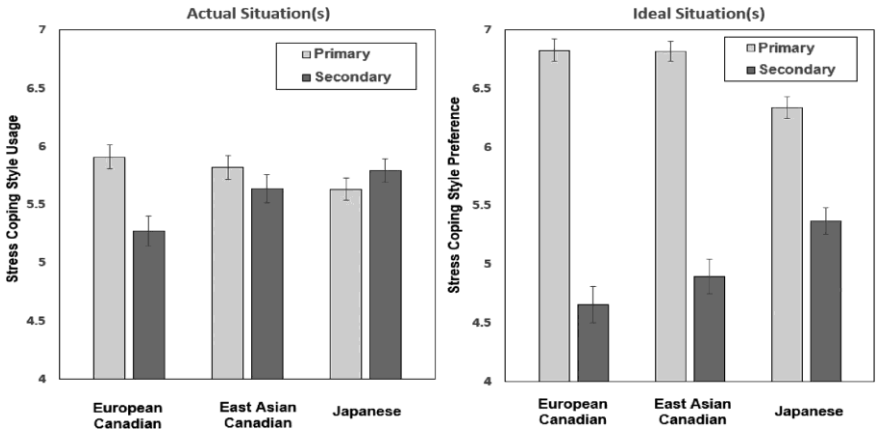

Figure 1 Differences in the actual versus ideal usage of primary and secondary control coping across cultural groups. Error bars represent standard errors

Cultural Differences in Actual Usage of Primary and Secondary Control Coping

We further assessed cultural variations in the extent to which people have used primary or secondary control coping to cope with daily stress scenarios in their actual life (left panel on Figure 1). We conducted simple effect analyses comparing one group's usage of each type of coping in actual situations with the others.

The results of simple effect analyses showed that European Canadians (M = 5.91, SD = 1.00) marginally differed in their usage of primary control coping compared to the Japanese (M = 5.63, SD = 0.97), $t(298) = 1.82$, $p = .069$, Cohen's $d = 0.281$. East Asian Canadians' score for actual usage of primary control coping (M=5.82, SD=1.05) did not differ from European Canadians' nor the Japanese's; their value fell in between the two cultural groups: European Canadians ($t(298) < 1$, ns) and Japanese ($t(298) = 1.21$, ns).

For actual usage of secondary control coping, there were substantial cultural variations among the groups. Notably, the Japanese's score (M = 5.79, SD = 1.01) and East Asian Canadians' score (M = 5.64, SD = 1.19) were significantly higher than European Canadians' score (M = 5.27, SD = 1.26), $t(298) = 3.40$, $p < .001$, Cohen's $d = 0.454$ (Japanese vs. European Canadians), and $t(298) = 2.35$, $p = .019$, Cohen's $d = 0.296$ (East Asian Canadians vs. European Canadians). There is no statistically significant difference between the Japanese and East Asian Canadians, $t(298) = 1.01$, ns.

Within-group comparisons indicated that European Canadians perceived themselves to have endorsed more primary control coping than secondary control coping based on their actual usage of coping strategies, $t(99) = 3.40$, $p = .001$, Cohen's $d = 0.491$. However, there are no significant differences for East Asian Canadians', $t(97) = 1.01$, ns, and the Japanese's, $t(102) = 1.04$, ns, actual usage of primary and secondary control coping. This suggests that they equally endorse both types of coping strategies based on their actual usage.

Cultural Differences in Ideal Usage of Primary and Secondary Control

We also examined cultural variations to which people would prefer to use primary or secondary control coping to cope with daily stress in ideal situations (right panel on Figure 1). We conducted simple effect analyses to compare one group's preference for each type of coping in ideal situations with the others.

The results of simple effect analyses revealed significant differences for the ideal usage of primary control coping between the three cultural groups. Consistent with our predictions, European Canadians ($M = 6.83$, $SD = 0.94$) had higher endorsement for ideal usage of primary control coping compared to the Japanese ($M = 6.34$, $SD = 0.96$), $t(298) = 2.95$, $p = .003$, Cohen's $d = 0.518$. East Asian Canadians ($M = 6.82$, $SD = 0.85$) also had higher endorsement for ideal usage of primary control coping compared to the Japanese, $t(298) = 2.88$, $p = .004$, Cohen's $d = 0.531$. However, there was no significant difference between European Canadians and East Asian Canadians, $t < 1$, ns.

In terms of ideal usage of secondary control coping, results from simple effect analyses showed cultural differences for comparisons between the Japanese and European Canadians, and the Japanese and East Asian Canadians. Consistent with our predictions, the Japanese ($M = 5.37$, $SD = 1.16$) had higher ratings for ideal usage of secondary control coping compared to European Canadians ($M = 4.66$, $SD = 1.55$), $t(298) = 4.29$, $p < .001$, Cohen's $d = 0.520$. The Japanese ($M = 5.37$, $SD = 1.16$) also had higher ratings for ideal usage of secondary control coping compared to East Asian Canadians ($M = 4.89$, $SD = 1.47$), $t(298) = 2.85$, $p = .005$, Cohen's $d = 0.359$. However, there was no statistically significant difference between European Canadians and East Asian Canadians, $t(298) = 1.41$, ns.

Within-group comparisons indicated that all groups preferred primary control coping to secondary control coping. Although the differences in magnitude varied across groups, the differences were all statistically significant. European Canadians perceived themselves to endorse primary control coping over secondary control coping for ideal usage of coping strategies, $t(99) = 10.74$, $p < .001$, Cohen's $d = 1.380$. East Asian Canadians also showed the same tendency, $t(97) = 10.34$, $p < .001$, Cohen's $d = 1.255$. Finally, while the Japanese showed similar tendencies, the differences in preference were at an intermediate level, $t(102) = 6.05$, $p < .001$, Cohen's $d = 0.704$. This suggests that the Japanese still endorsed relatively higher levels of secondary control coping for their ideal usage compared to European Canadians and East Asian Canadians.

The Independent and Interdependent Social Orientations, and Distress Score

One-way ANOVAs revealed cultural differences in independent and interdependent

selfconstruals. Consistent with previous studies (Cross, 1995; Lam & Zane, 2004), there were significant differences in independence scores, $F(2, 297) = 22.639$, $p < .001$, $\eta 2p = .132$. European Canadians ($M = 5.56$, $SD = 0.68$) and East Asian Canadians ($M = 5.46$, $SD = 0.67$), respectively, showed higher scores than the Japanese ($M = 4.94$, $SD = 0.75$), $t(298) = 6.29$, $p < .001$, Cohen's $d = 0.866$; $t(298) = 5.25$, $p < .001$, Cohen's $d = 0.731$. There were significant differences in interdependence as well, $F(2, 297) = 6.504$, $p = .002$, $\eta^2_p = .042$. East Asian Canadians ($M = 4.86$, $SD = 0.73$) reported a higher score than European Canadians ($M = 4.60$, $SD = 0.63$), $t(299) = 2.42$, $p < .02$, Cohen's $d = 0.381$. However, while the Japanese's ($M = 4.48$, $SD = 0.88$) score was not significantly different from European Canadians', $t(299) = 1.12$, ns, they were significantly lower than East Asian Canadians', $t(299) = 3.55$, $p < .01$, Cohen's $d = 0.470$. The inconsistency between the assumption and the results will be discussed in the limitations. As for the distress score, all participants reported low presence of distress symptomology, yet there were significant differences across groups, $F(2, 298) = 13.04$, $p < .001$, $\eta^2_p = .080$. Consistent with previous findings, the Japanese's score ($M = 23.34$, $SD = 8.29$) was higher than European Canadians' ($M = 16.78$, $SD = 10.24$), $t(298) = 4.87$, $p < .001$, Cohen's $d = 0.703$. Also, East Asian Canadians' score ($M = 21.90$, $SD = 10.13$) was higher than European Canadians', $t(298) = 3.76$, $p < .001$, Cohen's $d = 0.502$. However, the difference between East Asian Canadians and the Japanese did not reach statistical significance, $t(298) = 1.06$, ns. These variables were used for the analyses below.

The Mediating Role of Social Orientations Between Culture and Actual Usage of Coping

Before conducting mediational analyses, we tested for correlations among variables for exploratory purposes. The results revealed no significant associations between independence and interdependence ($r = -.08$, $p = .161$), meaning that they are seen as two different dimensions of the self. For actual usage of coping strategies, independence was positively correlated with primary control coping ($r = .23$, $p < .001$) and negatively correlated with secondary control coping ($r = -.19$, $p = .001$), whereas interdependence was positively associated with primary control coping ($r = .13$, $p = .029$) and was not associated with secondary control coping ($r = .02$, $p = .709$). We did not include interdependence in the subsequent analyses due to the low value of correlational coefficients between interdependent self-construal and the variables of interest.

Next, we computed a primary–secondary difference score by subtracting the actual usage of

secondary control coping from the actual usage of primary control coping per culture. A higher primary–secondary difference score means a larger gap between people's selection of primary control coping and secondary control coping. A smaller gap indicates that people select the two types of coping strategies to a similar extent. Higher scores indicate that, in actual usage, people endorsed greater primary control coping relative to secondary control coping. We then assigned specific dummy values to each cultural group: European Canadians (1), East Asian Canadians (0), and Japanese (-1).

With these variables, we conducted a mediation analysis to assess to what extent independent social orientations mediate the association between culture and primary versus secondary difference score. Results indicated that there was a positive association between culture and the independence score, $b = .310$, $p < .001$, 95% CI = [.212, .408]. Second, the independence score was positively correlated with the primary versus secondary difference score, showing that the more independent a person is, the larger the difference score they would have between primary and secondary control coping, $b=.522$, $p < .001$, 95% CI=[.247, .797].

Finally, the indirect effect [culture -> the independence score -> primary–secondary difference score] was significant (indirect effect = .162, 95% CI=[.073, .271]). Importantly, the cultural difference in actual usage of primary control coping (relative to secondary control coping) was fully mediated by individuals' level of independent self-construal. This suggests that European Canadians (as opposed to the other cultural groups) tend to report stronger actual usage of primary control coping relative to secondary control coping due to their strong independent self-construal (see Figure 2a).

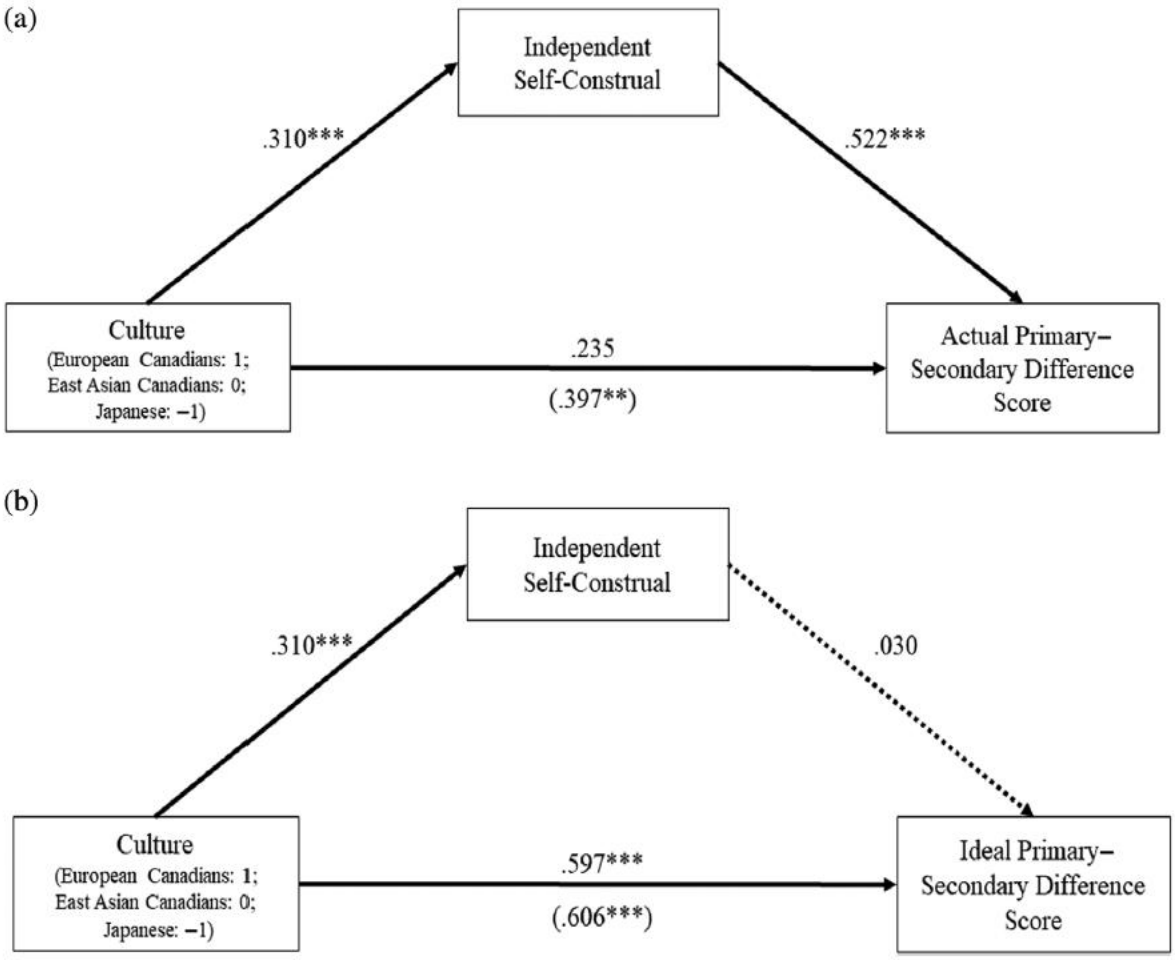

Figure 2 The indirect effects from culture to difference scores between (a) actual and (b) ideal usage of primary and secondary control coping via independent self-construal. All presented effects are unstandardized regression coefficients. The numbers in parentheses reflect the unstandardized regression coefficients in the absence of the mediating variables (i.e., the total effect). ***p < .001 (two-tailed)

The Mediating Role of Social Orientations Between Culture and Ideal Usage of Coping

While we did not expect any patterns to mediate the role of social orientations and ideal usage of coping, we also tested the model again by assigning specific dummy values to each cultural group—European Canadians (1), East Asian Canadians (0), and Japanese (_1)—and computed another primary–secondary difference score by subtracting the ideal usage of secondary control coping value from the ideal usage of primary control coping value, respectively, per each culture. For ideal usage of primary control coping, the larger positive value means there is a greater

preference for primary control coping. For ideal usage of secondary control coping, the larger negative value means there is less preference for secondary control coping. No significant mediational effect of independence between culture and the ideal primary and secondary difference score indicates that other factors must explain the direct association between these two variables. We presume that alternative factors which may mediate this association can be holistic perception (e.g., Masuda et al., 2019) and dialectical-balanced thinking styles (Spencer-Rodgers et al., 2018). Further studies should scrutinize the mediational factors to better explain the cultural differences in ideal control coping.

Table 1 Culture and stress coping

Variable	European Canadians Distress Score	East Asian Canadians Distress Score	Japanese Distress Score
1. Actual primary control coping	−.17	−.09	<.001
2. Actual secondary control coping	.08	.32**	.07
3. Ideal primary control coping	.02	.09	−.01
4. Ideal secondary control coping	.09	.10	.12
5. Primary ideal–actual discrepancy	.19	.20*	−.02
6. Secondary ideal–actual discrepancy	.02	−.20*	.06

*$p < .05$. **$p < .01$.

Correlational Analyses Between the Distress Score and Various Scores

To examine the fourth question, we carried out correlation analyses between the distress score and various scores, including actual primary and secondary control coping, ideal primary and secondary control coping, and the ideal–actual discrepancy of primary and secondary control coping across the three cultural groups (Table 1). Primary (or secondary) control coping ideal–actual discrepancy scores were computed by subtracting the actual usage of primary (or secondary) control coping score from the ideal preference of primary (or secondary) control coping score per culture. The results indicated no significant correlations among target variables in the European Canadian data and the Japanese data. However, the East Asian Canadian data showed a significant positive correlation between the ideal–actual discrepancy of primary control coping and the distress score (r = .20, p = .048), and a significant negative correlation between the ideal–actual discrepancy of secondary control coping and the distress score (r = -.20, p

= .049). The fact that there was a significant positive correlation between actual secondary control coping score and the distress score ($r = .32$, $p = .001$) may imply that East Asian Canadians who are high in the usage of secondary control coping experience more daily stress.

Discussion

The present study examined cultural variations in people's selection of primary and secondary control coping for daily stress by targeting three cultural groups: European Canadians, East Asian Canadians, and the Japanese. Consistent with previous findings (Weisz et al., 1984), the current study demonstrated that European Canadians valued primary control coping over secondary control coping based on their actual and ideal usage of coping strategies.

In contrast, the Japanese take a more balanced approach towards selecting coping strategy through the tendency to endorse both primary and secondary control coping, especially when referring to their actual usage. Although the Japanese reported higher distress symptoms, their balanced approach towards coping may be an adaptive mechanism that helps to alleviate their level of distress. For example, in the literature on coping flexibility, it has been suggested that the association between coping flexibility and psychological adjustment is stronger for societies low in individualism, such as Japan, than for societies high in individualism, such as the United States (Cheng et al., 2014). In fact, Kato (2015) demonstrated that higher levels of coping flexibility were significantly associated with lower levels of depressive symptoms among the Japanese. Future research should examine if this dynamic selection of coping strategies is unique to the Japanese. While East Asian Canadians' score fell between these cultural groups, our exploratory analyses illustrated that East Asian Canadians' coping strategies are significantly associated with the distress score, suggesting that the multicultural East Asian Canadians experience ambivalence in their cultural identity.

Following previous research on social orientations (Varnum et al., 2010), the current study also assessed the mediational role of social orientations in the relationship between culture and the primary–secondary difference score. Results demonstrated that the level of independence showed a strong indirect effect, suggesting that the social orientation hypothesis is a useful theoretical framework for investigating cultural variations in mental health and wellbeing. In contrast, the mediational effect of social orientations was weak in the ideal condition. Future

research should further explore mediators to explain the cultural variations in the ideal condition.

Finally, there are commonalities across cultures regarding the ideal–actual discrepancy.

Overall, participants preferred primary over secondary control coping when they were in the ideal condition than in the actual condition, giving credence to Hashimoto and Yamagishi's (2015) assertion. However, it is also noteworthy that the Japanese still endorsed relatively higher levels of secondary control coping for their ideal usage than European Canadians and East Asian Canadians. Future research should further scrutinize unique cultural interpretations of control coping strategies to understand the interplay between culture and stress coping comprehensively.

Implications

The main purpose of the current study was to provide preliminary evidence on the association between social orientations and specific patterns of coping against daily stress. Extending from Lee et al. (2021), we demonstrated the concurrent activation of coping perception in response to daily stress scenarios. This perspective strongly resonates with the current discourse of cultural–clinical psychology (Ryder et al., 2008).

Furthermore, while identifying culturally unique coping strategies in European Canadians and the Japanese data, we also found the East Asian Canadians' unique pattern of responses, shedding light on the issue of multiculturalism—one of the most prominent social issues with the increase in immigration and drastic cultural changes in contemporary society. Several studies give credence to the current findings. These studies demonstrated that Asian-descent North Americans exhibit more distress than their European-decent North American counterparts, and this tendency is explained by the level of interdependence (Okazaki, 2002; Okazaki et al., 2002) and their concerns about losing face and shame socialization (Lau et al., 2009). Future research should elucidate key factors of immigrants' complex mentality.

It is also noteworthy that the current study demonstrated that primary control coping strategy is more preferable, and that secondary control coping strategy is less preferable in the ideal condition for all cultural groups. This suggests that findings on actual–ideal comparison would further unpack the cultural similarities and differences in control coping strategies.

Finally, cultural psychologists advocate for the importance of data collection from a variety of populations outside of North America (Masuda et al., 2020; San Martin et al., 2018) under the discourse of "the weirdest people in the world" (Henrich, 2020). While we acknowledge this movement, the current study advocates that scrutinizing the nuanced subcultural variations and sampling from minority cultural groups within North America can further address the issue of generalizability in psychological sciences (Markus & Conner, 2014).

Limitations

With this study's unique findings in mind, there are several limitations. First, our sample consisted of only undergraduate students; previous research has indicated age differences in stress perception, and older adults have different degrees of reliance on control strategies compared to young adults (Wrosch et al., 2000). We recommend future research to increase the generalizability across age groups by sampling stress scenarios from people of various developmental stages.

Second, the current study found that in contrast to East Asian Canadians' interdependence score, the Japanese's score was not statistically higher than North Americans', indicating inconsistency among the two Asian groups. This limitation undermined the potential mediational relationship between interdependence, culture, and coping strategies. We presume this is attributable to the Japanese's sense of interdependence being more nuanced and associated with parameters that were not captured by the current interdependence scale. Many studies have reported failed attempts to demonstrate the Japanese's elevated levels of interdependence. Some scholars suggest that the items in the current interdependent scale entail cultural biases, and have therefore devised an alternative interdependence scale for the Japanese (Takata et al., 1995). Other researchers have expressed concerns for methodological issues and that self-report scales generally entail a response bias (Heine et al., 2002; Oishi et al., 2005). Future studies should aim to overcome the methodological constraints by devising valid alternative tasks to assess one's level of interdependence accurately.

Third, while we identified East Asian Canadians' unique patterns of stress coping strategies, we could not further scrutinize to what extent their multicultural identity and the sociocultural context surrounding them influence their responses. Future research should address this issue by having measurements to better scrutinize these two factors.

Finally, we did not specifically define to the participants that ideal coping strategy preference should reflect their personal goals and are not based on societal expectations. While we intended to measure participants' personal ideals, it is advisable in future research to clarify this point during the instruction phase of the experiment.

Additionally, there should be nuanced measurements of primary and secondary control as they may be perceived differently across cultures. For example, subcategories of primary and secondary control can better elucidate people's different perceptions in culturally grounded orientations (Morling & Evered, 2006; Sawaumi et al., 2015; Yamaguchi, 2001).

Conclusion

The present study addressed cultural variations in the endorsement of primary and secondary control coping across various daily stress scenarios. This study contributes to the significant dialogue of addressing stress and coping from a culturally sensitive lens for European Canadians, East Asian Canadians, and the Japanese.

Conflict of Interest

The authors declare no conflicts of interest associated with this manuscript.

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