

Cultural Values Predict Coping
Using Culture as an Individual Difference Variable in Multicultural Samples

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Abstract

Three studies establish the relations between cultural values and coping using multicultural samples of international students. Study 1 established the cross-cultural measurement invariance of subscales of the Cope inventory (Carver, Scheier, & Weintraub, 1989) used in the paper. The cultural value dimensions of embeddedness vs. autonomy and hierarchy vs. egalitarianism predicted how international students from 28 (Study 2) and 38 (Study 3) countries coped with adapting to living in a new country. Cultural values predicted coping by religion, and this relation was only partly mediated by personally valuing tradition, cultural norms, and perceived difficulty of adapting. Cultural values predicted emotion-focused/avoidant coping beyond neuroticism, and seeking social support beyond extraversion. Mediators to the relations between cultural values and these coping strategies were also found. The results demonstrate the power of cultural values to predict coping, and bring to the forefront the use of multicultural samples as an important method in cross-cultural research.

Can cultural dimensions account for differences in coping strategies? Many papers in applied journals have examined cross-cultural differences in coping, attesting to the practical importance of this issue to practitioners. Yet, these papers have typically not attempted to approach this issue on a theoretical basis. Furthermore, most papers have either used participants from two countries or from a few sub-cultures within the United States (e.g., Connell & Gibson, 1997; Taylor et al., 2004). Hence, it is not clear yet whether their findings can be generalized beyond the few cultures and sub-cultures examined. To establish the generality of theoretically-based questions a broader array of cultures is needed using cultural dimensions on which cultures could be positioned (see also Glazer, 2006). Our paper aims to start closing this gap using an efficient method for cross-cultural research. Specifically, samples with participants from many cultures enable the use of culture as an individual-difference variable. This paper uses basic cultural dimensions to form theoretically-based hypotheses relating cultural values to coping. First, Study 1 combines data from Studies 2 and 3 to test the cross-cultural invariance of the Cope inventory (Carver et al, 1989). Then, Study 2 examines the basic relations between cultural values and coping. It also examines whether cultural values predict coping beyond personality traits and personal values, as well as the role of personal values as mediators to the relations between cultural values and coping. Study 3 provides a replication for Study 2 and examines additional mediators to the relations between cultural values and coping.

We examine the relations of cultural values to coping in the context of sojourners while adapting to living in a new country. Sojourners are people who move to another country temporarily to engage in a concrete task, with the intention of returning to their original country upon completion of the task (see review in Bochner, 2006). According to Bochner, international students form one of the most prominent groups of sojourners, thus it is

important to examine cross-cultural differences in their coping strategies with adapting to living in a new country.

The process of acculturation, which occurs in any relocation to a new country (see Sam, 2006), entails difficulties that require the use of coping strategies (e.g., Berry, 2006b). As Bochner (2006) concludes from reviewing the literature, the extent of these difficulties vary across international students from mild difficulties that require minimal adjustment, through to greater difficulties perceived as controllable resulting with the feeling of *acculturative stress* (reviewed in Berry, 2006b), and up to extreme levels of stress, termed *culture shock* (see, e.g., Berry, 2006b; Bochner, 2006). This range of levels of perceived difficulties probably results with ample variance in the extent of using different coping strategies, thereby facilitating the examination of cross-cultural differences in coping.

Culture may affect coping in multiple ways (see also Glazer, 2006). As culture affects norms (e.g., Schwartz, 2004), it may affect coping behavior through norms (see also Glazer, 2006; Taylor et. al, 2004). Norms may define legitimate and encouraged ways of coping as well as illegitimate and discouraged ones. For example, in religious cultures, coping by praying may be legitimate and even encouraged. In contrast, in secular cultures, coping by praying may be legitimate only in certain situations, in which there are no active ways to solve the problem (e.g., coping with the death of a loved one). Throughout socialization, individuals learn the coping strategies that are legitimate and encouraged in their culture (Oláh, 1995).

Similarly to norms, it has also been suggested that culture influences behavior through internalized cultural values (e.g., Matsumoto, Yoo, & Nakagawa, 2008). Hence, culture may also affect coping responses through personal values.

Finally, culture may have an effect on the perceived difficulty of a situation which in turn may influence coping with this situation (see also Glazer, 2006). Specifically, in cultures in which life is relatively more predictable, an unfamiliar life situation (such as moving to a new

country) may be more difficult, thereby leading to certain coping strategies. In the specific context of moving to a new country, perceived difficulty may also be affected by cultural distance. Cultural distance refers to the differences between two cultures (e.g., Berry, 2006b; Triandis, 1995). A robust finding is that acculturative adaptation is more difficult the greater the cultural distance (reviewed in Masgoret & Ward, 2006). This was also found in sojourners, including international students in the UK (Furnham & Bochner, 1982).

Cultural Dimensions Used in the Current Research

The present paper uses the Schwartz (2004) cultural value dimensions due to their potential relevance to coping strategies. The dimension of *embeddedness* vs. *autonomy* contrasts the importance of the group with the importance of the individual. This cultural contrast may lead to coping strategies that emphasize tradition and group interests vs. individual autonomy in decision and action. The second cultural dimension is *hierarchy* vs. *egalitarianism*. It contrasts the employment of fixed hierarchy and roles with encouragement of personal responsibility as means to encourage responsible behavior. This cultural contrast may lead to a contrast in the passivity vs. activity of encouraged coping strategies. The third dimension, *mastery* vs. *harmony*, contrasts emphasis on the legitimacy to change and exploit natural and social resources with emphasis on preserving and protecting the environment and the world at large. Based on its content, this issue has little theoretical relevance to coping strategies.¹ For similar arguments and choices regarding emotion regulation see Matsumoto et al. (2008). Still, this dimension was included in the statistical analyses for completeness.

Coping and its Expected Relations to Cultural values

Coping may be defined as cognitive and behavioral efforts by which a person reacts to stressors and attempts to manage difficulties and the emotions generated by these difficulties (Lazarus & Folkman, 1984). Many coping strategies have been suggested, as well as a number of classifications of coping strategies (reviewed in, e.g., Connor-Smith & Flachsbart, 2007).

The most prevalent classification is to strategies of problem-focused coping and emotion-focused coping (Folkman & Lazarus, 1980). This classification has also been referred to in addressing coping as a moderating factor during acculturation (see Berry, 2006b). Problem-focused coping includes strategies that aim at solving the problem (e.g., active coping, planning). Emotion-focused coping refers to strategies that aim to reduce emotional distress or express emotions, such as engaging in distracting activities and venting emotions. These broad classifications will be used in this paper because many of the empirical studies that we base our hypotheses on used these classifications and did not report results separately for the specific coping strategies. Moreover, the same specific coping strategy (e.g., avoidance) can be classified as an emotion-focused coping in some papers, but as avoidance coping in others. Therefore, we combine emotion-focused and avoidance coping into one broad coping strategy.

The current research examines how international students from many different cultures cope with the difficulties of adapting to life in a new country (Britain). Three coping strategies emerge from the literature as consistently differing in their frequencies across cultures. These are coping by religion (e.g., Connell & Gibson, 1997; Wahass, & Kent, 1997), emotion-focused/avoidance coping (e.g., Oláh, 1995; Radford, Mann, Ohta, & Nakane, 1993), and social-support (e.g., Shin, 2002; Taylor et al., 2004). Coping by religion and emotion-focused/avoidance coping are more frequently used in non-Western cultural groups, whereas seeking social-support is more frequently used in Western cultures. Problem-focused coping often does not differ across cultures. We next theorize on the possible relations of these coping strategies to the cultural dimensions described above.

Coping by religion. Using religion as a way of coping is more common in non-Western cultures compared with Western cultures in dealing with a variety of stressors (e.g., Connell & Gibson, 1997; Wahass, & Kent, 1997). People in embedded cultures are expected to follow tradition, including their religion. Thus, in embedded cultures, coping by seeking God's help

may be legitimate and even encouraged. In contrast, in cultures that emphasize autonomy, people are encouraged to think for themselves and to find their own unique solutions to solvable problems. This approach is incompatible with accepting imposed solutions from an external source, such as religion. Thus, in cultures that emphasize autonomy, coping by religion may be discouraged as a way to cope with adapting to living in a new country.

In egalitarian cultures, people are expected to take responsibility; thus exerting responsibility for adapting to living in a new country to an external source, such as religion, is incompatible with cultural expectations. In contrast, in cultures that emphasize hierarchy, decisions for action are usually made by higher authorities. Thus, individuals are used to placing responsibility outside the self. Religion, or God, might be one such external source of responsibility. Therefore, individuals from cultures that emphasize hierarchy may cope by religion more than individuals from cultures that do not emphasize hierarchy. Hence, we hypothesize that coping by turning to religion would relate positively to the cultural dimensions of embeddedness vs. autonomy and hierarchy vs. egalitarianism.

Emotion-focused/avoidant coping. Many studies have found that emotion-focused/avoidance coping is more common in non-Western cultures compared with Western cultures (e.g., Oláh, 1995; Radford et al., 1993). Focusing on emotions and avoiding the problem may be seen as a waste of time in cultures emphasizing personal responsibility, that is, cultures high on egalitarianism. Therefore, in such cultures, emotion-focused coping and avoidance may be perceived as less legitimate, compared with cultures that place less emphasis on taking personal responsibility.

In cultures that emphasize embeddedness and hierarchy, the correct way of acting is well-known, and ambiguous situations (such as life in a new country) are relatively rare. Indeed, in comparing employees with similar jobs from India and the USA, the stressor mentioned most often by Indian employees, but not mentioned at all by American employees,

was lack of clarity and structure (Narayanan et al., 1999). Hence, the ambiguous situation of living in a new country may be more difficult for people coming from embedded and hierarchical cultures, leading to greater use of emotion-focused coping. This may be worsened by the added acculturative stress due to greater cultural distance between the British culture and cultures high on embeddedness and hierarchy. Similarly, Park, Armeli, and Tennen (2004) found that perception of low controllability was associated with using emotion-focused coping and avoidance, and this may also apply to cultures high on embeddedness and hierarchy, particularly as such cultures view individuals as less agentic (Menon, Morris, Chiu, & Hong, 1999). Furthermore, cultures high on embeddedness and hierarchy might be more tolerant of emotion-focused and avoidant coping, as this is a way to alleviate distress temporarily without violating norms, which is crucial in such cultures (see e.g., Matsumoto, 2007). Taken together, we hypothesize that emotion-focus/avoidant coping would correlate positively with the cultural dimensions of embeddedness vs. autonomy and hierarchy vs. egalitarianism.

Social-support. Taylor et al. (2004) found that European-Americans tend to seek social support more than Asians and Asian-Americans do when coping with difficulties.

The cultural basis for such findings may be as follows. In embedded cultures, the group is viewed as more important than the individual leading to reluctance to burden others with one's personal problems, and this was found to explain the finding that Asian-Americans had a lower tendency to seek social support compared with European-Americans (Taylor et al., 2004). In contrast, in cultures high on autonomy, individuals are viewed as important, and they are encouraged to maximize pleasant affect. This may encourage seeking social support to cope with difficulties, because individuals may be less bothered by the effects that their personal difficulties might exert on others (Taylor et al., 2004). In egalitarian cultures there is an emphasis on voluntary commitment to help one-another. Thus, people who come from egalitarian cultures may expect others to help them and therefore they may seek social support.

Hence, we hypothesize that seeking social support would be negatively related to the cultural dimensions of embeddedness vs. autonomy and hierarchy vs. egalitarianism.

To summarize, the current work presents three studies: in Study 1, the COPE scale (Carver et al., 1989) will be tested for invariance across groups, allowing its use in cross-cultural research; in Study 2, we propose that coping by religion will correlate positively with embeddedness vs. autonomy and hierarchy vs. egalitarianism (*hypothesis 1*); emotion-focused/avoidant coping will correlate positively with embeddedness vs. autonomy and hierarchy vs. egalitarianism (*hypothesis 2*); and seeking social support will correlate negatively with embeddedness vs. autonomy and hierarchy vs. egalitarianism (*hypothesis 3*). Study 2 will also examine the roles of personality traits and personal values in combination with cultural values in predicting coping. Study 3 will aim to replicate Study 2's results regarding these hypotheses and examine additional mediators to the relations of cultural values to coping.

Overview and Methodological Approach

International students in their first year in Britain reported their ways of coping with adapting to living in Britain. All of the participants were at the same university, thus the living conditions with which they had to cope were similar. They reported their country of origin, and each participant was assigned the culture-level scores of a student-sample in his or her original country, based on data obtained by Schwartz (2005).² As operationalized by Schwartz (e.g., 2004), the scores for the bipolar dimensions (e.g., hierarchy vs. egalitarianism) were calculated by subtracting the score of one dimension from the other. These scores were used as indicators of cultural background. The culture-level scores were then correlated with participants' coping strategies. Thus, cultural background was used as a continuous individual-difference variable. This was possible, because the sample included participants from many different cultures. Note that this procedure does not involve the confusion of the individual level of analysis with the cultural level of analysis (see Hofstede,

1980; Leung & Bond, 1989). This is because the sample is multicultural, thus it contains different people from different cultures. Cultural scores have been used in the past at the individual level of analysis, although not in multicultural samples (see summary in Fischer, 2009). A more similar use to ours was employed by Downie, Koestner, ElGeledi, and Cree (2004), but without testing for cross-cultural measurement invariance and without correcting for cross-cultural response biases.

If possible, multi-level analysis should be performed on such data. However, calculating intraclass correlations with the averaged group size of 4.4 (below the suggested minimum of 10 observations per group; see Maas & Hox, 2005 for unbalanced group sizes) resulted with low values (below 0.05) suggesting that this type of analysis would not be adequate (Garson, 2008; Hox, 2002). Garson suggests that in such cases a conventional regression approach should be used.

Using multicultural samples enables comparisons of many cultures simultaneously in a cost-effective way. Previous research may have focused on few cultures due to the technical difficulty in obtaining data from many countries. The current method overcomes these practical difficulties. In addition, the comparison of many cultures enforces thinking in broad terms of cultural dimensions as it is impossible to address the specific customs of each of the many participating cultures. This, in turn, facilitates a broad theoretical approach.

This approach also enables testing whether cultural values predict coping despite the existence of personality differences. The variance within cultures may be larger than the variance between cultures for any variable measured (see, e.g., Matsumoto, 2007). Studies typically compare group means on the dependent variable. These mean differences balance personality differences and enable finding cultural differences. Yet, in this research, personality differences and differences in cultural background contribute to the total variance at the same level of analysis. Thus, personality differences may attenuate the effect of

cultural value dimensions. This is particularly true regarding coping, because coping has been found to be closely linked to personality (see, e.g., McCrae & Costa, 1986). Using cultural background at the individual-level of analysis enables testing whether cultural values predict coping despite the existence of personality differences.

Study 1: Testing for Measurement Invariance of the Cope Scale

The Cope (Carver et al., 1989) is one of the most widely used coping scales. Although there are preliminary indications to the universality of the structure of coping (reviewed in Connor-Smith & Flachsbart, 2007), Berry (2006b) noted that it is still unclear whether the classification of coping strategies to problem- and emotion-focused coping is valid cross-culturally. It was therefore important to first test the measurement invariance of the Cope to examine whether it is possible to compare scores on it across participants from different cultures. We used all the participants from Studies 2 and 3 for this examination.

Method

Participants. Two hundred and ninety two international university students in their first year in Britain took part in the study for a prize draw. They were recruited by an e-mail with a link to the online survey. They came from 42 countries around the world³. Mean age was 22 years ($SD = 5.27$), and 65% were females. All passed a test of knowledge of the English language to be eligible to study at a British university. To test the cross-cultural measurement invariance of the coping scales, participants were divided into two new sub-samples. These sub-samples were defined by averaging the two bipolar dimensions of hierarchy vs. egalitarianism and embeddedness vs. autonomy, and then performing a median split on this new averaged cultural score. Hence, the first sub-sample included all the countries below the median of this new combined cultural score, and the second sub-sample included all the countries above the median of this combined cultural score.

Coping instrument. Participants completed all of the 15 subscales of the Cope questionnaire (Carver et al., 1989) asking how they are responding to the difficulties and frustrations of living in a new country. Participants rated the items on a 4-point scale from 1 (*I don't do this at all*) to 4 (*I do this a lot*). The full length Cope includes the following coping strategies, each measured by 4 items: turning to religion (e.g., “I seek God’s help”); emotional social-support (e.g., “I talk to someone about how I feel”); instrumental social-support (e.g., “I try to get advice from someone about what to do”); substance use (e.g., “I use alcohol or other drugs to make myself feel better”); denial (e.g., “I say to myself ‘this isn’t real’”); focus on and venting of emotions (e.g., “I let my feelings out”); mental disengagement (e.g., “I sleep more than usual”); behavioral disengagement (e.g., “I just give up trying to reach my goal”); planning (e.g., “I make a plan of action”); active coping (e.g., “I do what has to be done, one step at a time”); restraint (e.g., “I restrain myself from doing anything too quickly”); humor (e.g., “I laugh about the situation”); acceptance (e.g., “I learn to live with it”); suppression of competing activities (e.g., “I put aside other activities in order to concentrate on this”); and positive reinterpretation (e.g., “I look for something good in what is happening”). All subscales had acceptable reliabilities (Cronbach’s alpha > .70) except for mental disengagement (Cronbach’s alpha = .38), hence the latter was excluded from further analyses.

Emotion-focused/avoidant coping was combined of four subscales. These included denial, focus on and venting of emotions, and behavioral disengagement.⁴ Seeking social support combined emotional and instrumental social support. Finally, although problem-focused coping did not differ cross-culturally, we included it because of its importance in the coping literature. As past research on coping did not compare many cultures in the same study, it was possible that the null results obtained in the past with this coping strategy were due to the limited number of cultures included in each study. We measured problem-focused coping

with the coping strategies of planning, positive reinterpretation and growth, acceptance, and active coping.

Results

The main objective was to test if measurement invariance could be demonstrated across meaningful cultural groups for each of the relevant coping subscales, that is, the 10 subscales that form the four coping strategies of interest. Prior to conducting the analyses, the 60 Cope items were centered within each of the two samples, as suggested by Fischer (2004) to control for acquiescence and extremity biases. All further analyses were conducted with the centered scores. Configural invariance (similarity of factor structure across groups), metric invariance (similar factor loadings across groups), and scalar invariance (similar intercepts across groups) were tested in order to compare the groups on a mean level, as suggested by Byrne (2004). The models were tested using individual items, first- and second-order factors, and configural invariance results were used as a baseline model for subsequent analyses. Results for problem-focused and emotion-focused coping are presented in Table 1. Configural, metric, and full scalar invariance were established for both coping strategies. Regarding coping by religion (see Table 2), full scalar invariance was obtained by constraining all items. For seeking social support (Table 2), two items were considered non-invariant, with partial scalar invariance obtained by unconstraining these items.

According to Steenkamp and Baumgartner (1998), configural, metric and partial scalar invariance are sufficient for cross-cultural comparisons on a mean level. Thus, results of the following content-related analyses can be compared across participants from different cultures. We turn next to the focal studies of the paper.

Study 2: Cultural Values as Predictors of Coping Strategies

Study 2 was designed to test the expected relations between cultural values and coping, as outlined in the introduction. In addition, we tested whether cultural background predicts coping even when personality and personal values are taken into account.

Personality traits. McCrae and Costa (1986) suggested that coping should be tested within the framework of personality traits, and particularly the traits of neuroticism and extraversion. Specifically, neuroticism is related to emotion-focused and avoidance coping and extraversion is related to seeking social support and to problem-focused coping (see meta analysis in Connor-Smith & Flachsbart, 2007). Therefore, Study 2 will test whether cultural value dimensions remain a significant predictor of coping when neuroticism and extraversion are taken into account. If in this study cultural values will predict problem-focused coping we will also examine whether cultural values remain predictors of problem-focused coping when extraversion is taken into account.

Personal values. The cultural value dimensions scores are aggregates of personal values in student samples in each original country. Perhaps personal values account for the link between cultural values and coping. This may be particularly true regarding coping by religion, as religiosity is closely linked to personal values, and most strongly to tradition values (e.g., Roccas & Schwartz, 1997). Hence, we will examine if the relation between cultural values and coping by religion remains significant when personally valuing tradition is taken into account and also whether this relation is mediated by personally valuing tradition.⁵

To test this mediation, a path analysis will be employed including all three cultural dimensions, tradition values and the proposed coping strategies (see model in Figure 1).

Method

Participants. One hundred and sixty three international students at a university in England in their first year in Britain took part in the study. Of these, 136 came from countries for which scores of the Schwartz cultural dimensions (Schwartz, 2005) were available. Hence,

these 136 participants were included in all of the following analyses. They came from 28 countries around the world⁶. Their mean age was 21 years ($SD = 6.59$), and 66% were females.

Instruments

Coping. The Cope (Carver et al., 1989) was administered, as described above. The subscales that were intended to reflect the broader coping strategies and had sufficient measurement invariance based on the analyses above were averaged to be used in the analyses. Specifically, emotion-focus/avoidant coping was measured by the subscales focus on and venting of emotions, denial, and behavioral disengagement; seeking social support was measured by emotional and instrumental social support; and problem-focused coping was measured by planning, positive reinterpretation and growth, acceptance, and active coping.

Personality traits. Traits were measured by the Big Five Inventory (BFI, John, Donahue, & Kentle, 1991). The equivalence of meaning of this instrument was established across 56 nations (Schmitt, Allik, McCrae, & Benet-Martínez, 2007). The BFI has 44 items, and it measures traits of the Big Five taxonomy. Items are phrased as “I see myself as someone who...” (e.g., extraversion: “is talkative”; neuroticism: “can be tense”). Items are rated on a 5-point scale from 1 (*Disagree strongly*) to 5 (*Agree strongly*). Only the traits of extraversion and neuroticism will be used here, as they are the traits consistently related to coping.

Personal values. Personal values were measured by the Schwartz Value Survey (SVS, Schwartz, 1992). The SVS consists of a list of 56 value items (e.g., devout, creativity) that measure 10 broad values. Participants rate each value as a guiding principle in their own life on a 9-point scale from -1 (*opposed to my principles*) to 0 (*not important*) to 7 (*of supreme importance*). The equivalence of meaning of this instrument was established across many countries around the world (Fontaine, Poortinga, Delbeke, & Schwartz, 2008).

Results and discussion

Each participant was assigned the bipolar cultural value dimensions scores of his or her original culture, which were obtained by Schwartz (2005) from student samples in the countries of origin. As expected, coping by religion correlated positively with the cultural dimensions of hierarchy vs. egalitarianism ($r = .17, p < .05$) and embeddedness vs. autonomy ($r = .36, p < .01$). As hypothesized, emotion-focus/avoidant coping correlated positively with the cultural dimension of hierarchy vs. egalitarianism ($r = .21, p < .05$), and marginally with embeddedness vs. autonomy ($r = .14, p < .10$). As expected, coping by seeking social support correlated negatively with embeddedness vs. autonomy ($r = -.20, p < .05$). Finally, replicating previous studies, problem-focused coping did not correlate with cultural values. No significant correlations were found with mastery vs. harmony. Hence, the hypotheses were largely confirmed – the two expected cultural dimensions meaningfully correlated with the way people from different cultures cope with the difficulties of adapting to living in a new country.

To examine whether cultural values can predict coping above and beyond personality traits, we performed hierarchical regression analyses. In the first step, the relevant trait was entered as a predictor of the coping strategy known to be related to it. In the second step, a cultural dimension was entered, determined by a stepwise procedure, as there was no theoretical reason to prefer any of the relevant two cultural dimensions. Moreover, the purpose of this analysis was to test whether any cultural value dimension can predict coping beyond a personality trait which is closely linked to the coping strategy.

In the hierarchical regression predicting emotion-focused/avoidant coping, neuroticism (entered as a predictor in the first step of the analysis) was a significant predictor of emotion-focused/avoidant coping ($\beta = .39, p < .01$) as found in the past. The cultural dimension hierarchy vs. egalitarianism (entered in the second step using a stepwise procedure) predicted emotion-focus/avoidant coping above and beyond neuroticism ($\beta = .17, p < .05$ for cultural values, $\beta = .38, p < .01$ for neuroticism in the second step).

With regard to predicting seeking social support, the trait extraversion was entered in the first step and, as found in the past, predicted seeking social support ($\beta = .28, p < .01$). The cultural dimension embeddedness vs. autonomy, entered in the second step by stepwise procedure, predicted seeking social support above and beyond extraversion ($\beta = -.17, p < .05$ for cultural values, $\beta = .26, p < .01$ for extraversion in the second step).⁷

We next tested whether cultural values would remain a significant predictor of coping by religion when personally valuing religion is taken into account. Compared with all other personal values, religious coping was most strongly positively related to valuing tradition ($r = .44, p < .01$). We performed a hierarchical regression analysis similar to the ones we performed for traits. Therefore, in the first step, coping by religion was regressed on the theoretically relevant personal values (tradition values). And, as expected, valuing tradition predicted coping by religion ($\beta = .44, p < .01$). In the second step, the cultural value dimension of embeddedness vs. autonomy was entered with a stepwise procedure. Cultural values predicted coping by religion above and beyond tradition values ($\beta = .27, p < .01$ for cultural values, $\beta = .39, p < .01$ for valuing tradition in the second step). Thus, cultural values are important determinants of coping even when personal values are taken into account.

It is, however, possible that the effects of cultural values on coping are at least partly mediated by personal values. That is, cultural values affect personal values, and these in turn affect coping which is relevant to values, such as coping by religion. We conducted a path analysis to test the mediating effect of tradition values in the relationship between the cultural value dimensions and coping strategies, including the other culture-related coping strategies. Panel A in Figure 1 presents the expected model and Panel B presents the empirical results. Goodness of fit indexes were satisfactory [$\chi^2(12) = 16.574, p = .16; \chi^2/df = 1.381; GFI = .97; CFI = .98; RMSEA = .05$], with cultural values having direct and indirect effects on coping.

In the introduction, we discussed several ways through which culture may affect coping. These were used to develop hypotheses, but they were not tested empirically. Study 3 tests these possible mediators empirically.

Study 3: Mediators in the Relationship between Cultural Values and Coping

Study 3 aimed to replicate the findings of Study 2 using different value and personality measures to examine the robustness of Study 2's results. Another aim of Study 3 was to test the possible mediators to the relations of cultural values to coping outlined in the introduction, namely, perceived norms, perceived difficulty of the situation, controllability, sense of personal responsibility, and hesitation to burden others.

A possible explanation for the association between cultural values and coping is the influence of specific coping norms (i.e., norms that advocate the use of certain coping strategies in the culture of origin). For example, people from a culture that emphasizes tradition (high on embeddedness and hierarchy and low on autonomy and egalitarianism), which may have norms of turning to religion for dealing with difficulties, may cope more by turning to religion not only because their culture emphasizes traditional values, but also because this is a culturally normative coping strategy. Therefore, in addition to administering the Cope asking about how the participants cope with living in a new country, we also administered the Cope asking their perception of how normative each coping behavior is in their original country.

In developing our hypotheses, we postulated that adapting to living in another country might be more difficult for people coming from cultures in which life is quite predictable. People from such cultures are not used to being in ambiguous situations (cultures that emphasize embeddedness vs. autonomy and hierarchy vs. egalitarianism). Greater cultural distance from the British culture might also lead to greater difficulty in adapting to the new culture (same cultural dimensions). This greater difficulty in adapting may lead to greater use

of religious coping and emotion-focused/avoidant coping. In addition, we also used the concept of the importance of taking responsibility as a characteristic of egalitarian cultures, as well as feeling in control which might be low in embedded and hierarchical cultures.

Finally, Taylor et al. (2004) suggested and found that in cultures where the group is more important than the individual (as in the cultural dimensions of embeddedness and hierarchy) people are more hesitant to burden others with their problems. This may reduce the tendency to seek social support. Hence, in Study 3 we also measured perceived coping norms, view on personal responsibility over adapting to life in the new country, feeling in control of the success of adapting, perceived difficulty, and hesitation to burden others.

Method

Participants. One hundred and seventy nine international students at a university in England in their first year in Britain took part in the study. Of these, 156 came from countries for which scores of the Schwartz cultural dimensions (Schwartz, 2005) were available. Hence, these 156 participants were included in all of the following analyses. These students came from 38 countries around the world⁸, their mean age was 23 years ($SD = 4.01$) and 65% were females. Study 3 was conducted in a different academic year than Study 2, thus none of the participants of Study 2 took part in Study 3.

Instruments

Coping. The Cope (Carver et al., 1989) was administered, with the instructions described above. Coping strategies were computed in the same way as in Study 2.

Perceived coping norms. The same items of the Cope inventory were adapted to evaluate perceived coping norms by asking how much would people from their original country approve of the listed ways of dealing with the difficulties of living in a new country. Participants answered on a 5-point scale ranging from 1 (*disapprove greatly*) to 5 (*approve greatly*). Cronbach Alphas of the coping subscales ranged from .74 to .93.

Personality traits. The NEO Five Factor Inventory (NEO-FFI, Costa & McCrae, 1989) was used to measure the traits neuroticism and extraversion (12 items per trait). Participants rated the self-descriptive items on a 5-point scale, ranging from 1 (*Disagree greatly*) to 5 (*Agree greatly*). Items are phrased as “I laugh easily” (extraversion), or “I often feel tense and jittery” (neuroticism). This questionnaire has been used vastly in research in many countries.

Personal values. Tradition values were measured by the Portrait Values Questionnaire – PVQ (Schwartz et al., 2001). Items are phrased as short descriptions with the same sex as the participant. Four items were used to measure this value type (e.g., “It is important for her to keep up the customs she has learned”). Participants used a six-point scale, ranging from 1 (*not like me at all*) to 6 (*very much like me*). Cronbach’s alpha for the scale was $\alpha = .63$.

Perception of controllability, responsibility, difficulties, and burdening others. Eight new items (two for each dimension) were developed in order to cover the participant’s perception of personal control (e.g., “Feeling good about living here is not in my control”, reversed), responsibility (e.g., “It is my responsibility to make my life good here”), perceived difficulty to adapt (e.g., “Getting used to living here has been really easy”, reversed) and whether his/her personal problems would burden others (e.g., “I wouldn’t want to disturb others with my problems here”). Participants answered on a 5-point scale, ranging from 1 (*Disagree greatly*) to 5 (*Agree greatly*). The inter-item correlations for each type of perception were: .61 (perceived difficulty), .44 (responsibility), .45 (burdening others), and .33 (control).

Results and discussion

Regarding the correlations between cultural dimensions and coping strategies, coping by religion correlated with embeddedness vs. autonomy ($r = .53, p < .01$), hierarchy vs. egalitarianism ($r = .30, p < .01$), and mastery vs. harmony ($r = .20, p < .05$). Emotion-focused/avoidant coping correlated with embeddedness vs. autonomy ($r = .28, p < .01$),

hierarchy vs. egalitarianism ($r = .26, p < .01$), and mastery vs. harmony ($r = .16, p < .05$).

Seeking support and problem-focused coping did not correlate with any cultural dimension.

Hierarchical regression analyses were conducted to test whether cultural dimensions predicted coping above and beyond traits and values, and the findings replicated the results of Study 2. Specifically, neuroticism predicted emotion/avoidant coping ($\beta = .55, p < .01$), but hierarchy vs. egalitarianism (entered in a stepwise procedure in the second step of the regression) predicted it above and beyond neuroticism ($\beta = .29, p < .01$ for cultural values, $\beta = .52, p < .01$ for neuroticism in the second step).

We also employed hierarchical regression to test whether cultural values predicted coping by religion above and beyond personally valuing tradition. As in Study 2, valuing tradition related to coping by religion ($\beta = .55, p < .01$), but embeddedness vs. autonomy, entered in the second step by stepwise procedure, predicted it above and beyond values ($\beta = .35, p < .01$ for cultural values, $\beta = .40, p < .01$ for tradition values in the second step). Hence, again cultural values predicted coping beyond personality traits and personal values, even when using different value and trait scales.

In Study 3 we tested for additional possible mediations to the relations between cultural values and coping. These included perceived coping norms, view on personal responsibility over adapting to the new country, feeling in control of the success of adaptation, perceived difficulty to adapt, and hesitation to burden others with one's problems. Regarding perceived coping norms, the only significant correlations between cultural dimensions and perceived coping norms was between religious coping and embeddedness vs. autonomy ($r = .46, p < .01$), hierarchy vs. egalitarianism ($r = .22, p < .01$), and mastery vs. harmony ($r = .24, p < .01$).

The other possible mediators had several significant correlations with coping strategies and with cultural dimensions. Perceived difficulty correlated significantly with coping by religion ($r = .30, p < .01$), emotion-focused/avoidance ($r = .48, p < .01$), and seeking support (r

= .26, $p < .01$) among the coping strategies, and with the cultural dimension of embeddedness vs. autonomy ($r = .23$, $p < .01$). Burdening others correlated with embeddedness vs. autonomy ($r = .18$, $p < .05$) and with hierarchy vs. egalitarianism ($r = .22$, $p < .01$); among the coping strategies, it correlated with emotion-focused/avoidance coping ($r = .20$, $p < .05$), and seeking social support ($r = -.24$, $p < .01$). Perceptions of controllability correlated with mastery vs. harmony ($r = .17$, $p < .05$), and with emotion-focused/avoidance coping ($r = -.31$, $p < .01$), and perceptions of responsibility did not have any significant correlations with cultural dimensions or coping strategies. Therefore, we excluded it from further analyses.

A path analysis was conducted to test the mediating effects of tradition values, perceived norms of religious coping, perceived difficulty to adapt, burdening others and perceived controllability in the relationship between cultural dimensions and coping strategies. Similarly to Study 2, the path model included coping by religion, seeking support, and emotion-focused/avoidant coping and their relationships with cultural values and tradition values, with the addition of perceived norms of coping by religion, perceived difficulty, burdening others, and perceived controllability. Although seeking support did not correlate with cultural values in this study, we included it in the path analysis to see if it might be related to cultural values only indirectly, as we had a theoretical basis and previous findings to expect such a relation. The proposed model, presented in Panel A of Figure 2, is based on our theoretical suggestions in the introduction, with the exclusion of unsupported links by the correlations found in the current study.

Modification indexes suggested a relationship between tradition values and perceived norms of coping by religion. We therefore added this path to the model (see final tested model in Panel B of Figure 2). Note that this addition fits Schwartz's (2004) theoretical suggestion that cultural value orientations are expressed through norms, which help determine individual value preferences. All paths were significant, and the model had acceptable goodness of fit

indexes [$\chi^2(28) = 36.126, p = .14, \chi^2/df = 1.290; GFI = .97; CFI = .98; RMSEA = .04$], with cultural values having direct and indirect effects on coping, replicating Study 2. Together, these results point to the intricate relationship of cultural values to coping strategies.

General Discussion

The current studies found meaningful relations between cultural values and coping using culture as an individual-difference variable in multicultural samples. Furthermore, cultural values remained valid predictors of coping even when personality and personal values were taken into account. This is particularly remarkable, as personality and values were measured at the same session as coping and by the same participants hence correlations were probably inflated due to shared method variance. In contrast, cultural indicators were measured externally to participants and years earlier. Together, these results point to the power of cultural values in predicting coping.

The paper focused on coping strategies that emerged from the literature as differing across cultures, namely emotion-focus/avoidance, seeking social support, and coping by religion. We discuss each coping strategy below.

Coping by religion. Praying more than usual and seeking God's help is used more as a coping strategy by people who come from cultures high on hierarchy vs. egalitarianism and embeddedness vs. autonomy. Cultural values predict this coping strategy above and beyond personally valuing tradition. Personally valuing tradition only partly mediates the relation between cultural values and coping by religion. That is, people who ascribe the same level of importance to tradition values, but who come from cultures that differ on the relevant cultural dimensions, tend to differ in using religion as a way of coping. This result can be understood by considering how legitimate it would be to use religion as a way of coping in different cultures. To illustrate, in cultures high on autonomy, coping by praying might not be perceived as legitimate in all circumstances, such as in trying to adapt to life in a new country. Therefore,

even people who are relatively religious might not consider seeking God's help as a means of coping with the mundane difficulties of living in a new country. This explanation was supported empirically as perceived norms of coping by religion partly mediated the relations between cultural values and coping by religion.

Emotion-focus/avoidance. Engaging in emotion-focused or avoidant coping is more common in people who come from cultures that are high on embeddedness vs. autonomy and hierarchy vs. egalitarianism. Our findings suggest that it is partly because people coming from such cultures find this situation more difficult, perhaps due to the greater cultural distance between Britain and these cultures or because of lack of experience in new and ambiguous situations in embedded cultures. It is notable that although emotion-focus/avoidance is consistently linked to the personality trait neuroticism cultural values predicted this coping strategy above and beyond neuroticism.

Social Support. Cultural values predicted seeking social support (directly in Study 2 and indirectly in Study 3). Path analysis in Study 3 also found two mediators to this relation -- hesitation to burden others (in line with Taylor et al., 2004) and perceived difficulties to adapt.

Cultural Values vs. Personality in Predicting Coping

The current research demonstrated that although personality traits are considered closely related to coping, cultural values remain a valid predictor of coping when traits are taken into account. Do the results of this research challenge the commonly held view that personality is closely related to coping and perhaps the strongest factor in coping? Personality may still be the most important factor in coping in any uni-cultural sample. However, the current results suggest that when one compares individuals from different cultures, cultural values might be as important as personality in affecting coping.

Limitations

Before concluding, it is important to consider limitations of the current studies. Below, we discuss three limitations regarding the representativeness of the samples. First, a possible caveat of the current method is that each participant may not be a good representative of his or her original culture. This feature introduces much random variance. Still, the results were significant, meaningful, and replicated across two studies, using a different combination of cultures in each study. Hence, the effects found in this paper are probably an underestimation of the true effects, and point to the power of cultural values as predictors of coping.

A second caveat related to the representativeness of the samples concerns the cultures included in each study. As can be seen in Footnotes 6 and 8, in both studies, there were more participants from Western cultures compared with other cultures. This should have restricted the variance, and it probably reduced the chances to confirm the hypotheses. Still, the hypotheses were confirmed and replicated across two studies that included different combinations of cultures, attesting to the robustness of the results.

A third possible caveat regarding representativeness of the samples is the reliance on student samples. Students might not represent their original culture, and they may have some similarities across cultures. However, as Schwartz (1999) argued, any occupational group may be somewhat unrepresentative of its culture. Yet, if one uses the same occupational group across cultures, this group probably differs from its culture in the same direction (see also, e.g., Berry, Poortinga, Segall, & Dasen, 2002). Thus, the order of cultures should remain similar to the one obtained with representative samples. Future research should test similar questions on different populations, such as immigrants.

Related to this point, international students might not even be good representatives of students from their original cultures, as they may be more adventurous and open-minded than the average student in their country, attributes that might have led them to go to another country in the first place. However, the previous point is relevant in this case, too. That is, all

international students probably differ from students in their original country in the same way; hence their order on cultural dimensions is probably similar to any other kind of sample. Still, it is possible that international students have left their cultures because they differed from their cultures and thus felt estranged from their culture. This would mean that students from cultures high on embeddedness, for example, would show a personality opposite to embeddedness. However, had this been the case, we would not have found the hypothesized relations. Hence, this is probably not characteristic to international students.

Future Directions for the Study of Sojourners' Acculturative Adaptation

In recent years, intercultural contact has become more common, and the population of sojourners has grown vastly (Bochner, 2006). Hence, it is becoming increasingly important to understand the acculturative adaptation of sojourners. This paper has focused on coping strategies taken from basic coping literature. Yet, it is also possible to view acculturation strategies, such as integration and assimilation (see review in Berry, 2006a), as ways of coping with acculturation (Berry, 1980). Other important issues related to sojourn adaptation, such as discrimination during the sojourn and value change as part of acculturation (see Bardi & Goodwin, 2009), would also be important to study, perhaps using the cultural measure proposed here. Finally, with regard to social support, our paper focused on seeking social support. Yet, there could be meaningful cross-cultural differences in perceived receipt of social support in sojourners (see related conceptual analysis of previous findings in Glazer, 2006).

Using Culture as an Individual-Difference Variable in Multicultural Samples

In this paper, we have used multicultural samples and attached an external variable of cultural score to each participant. Thus, cultural background was used as an individual difference variable. Even though this measure is probably attenuated by various sources of random variance (as discussed above), it has proved to be a good measure with robust

predictive validity. The results replicated across the two studies even though the samples had different combinations of cultures. Thus, a strength of this method is its potential to produce results independent of the specific cultures included.

An additional advantage of this method is its practicality. It enables the conduct of cross-cultural research using many cultures in the same study with minimal costs, thus enabling the practical conduct of many more studies that will use a large array of cultures, rather than the limited number of cultures that is typically used. We have used this measure successfully in finding theoretically-based cross-cultural differences in a very different topic, namely in attitudes toward domestic violence (Viki & Bardi, 2009). Thus, this measure can be used to predict cross-cultural differences in diverse topics.

The same principle can be used with other culture-level scores, such as those of individualism/collectivism (Triandis, 1995) and the cultural dimensions of Hofstede (1980). Indeed, in the analyses for this paper we have also employed these cultural scores, and they produced the same patterns of results as reported in the paper (with collectivism parallel to embeddedness and to hierarchy). Hence, this method opens up many avenues for cross-cultural research.

Footnotes

¹ One may argue that mastery should lead to coping strategies that are focused on taking control over one's fate. However, as mastery and harmony form one dimension, this would imply that harmony encourages passivity. Yet, harmony includes values associated with active assertion of protection of nature and world peace. Cultures high on harmony do not encourage passive acceptance of circumstances. On the contrary, they encourage active striving to protect the environment and promote world peace, and the cultures that emphasize harmony most strongly are those that are the most vocal in protecting the environment and in putting pressure on other countries to take steps towards peace. Hence, it would not be theoretically sound to propose that harmony should discourage active coping strategies.

² We thank Shalom Schwartz for providing these culture-level scores.

³ Participants were from the following countries (number of participants in parentheses): Argentina (1), Australia (2), Austria (5), Belgium (1), Brazil (2), Bulgaria (1), Canada (6), Chile (1), China (24), Cyprus (6), Denmark (5), Finland (12), France (47), Germany (32), Ghana (2), Greece (17), Hong Kong (2), India (5), Iran (1), Ireland (3), Israel (2), Italy (17), Jamaica (1), Japan (5), Malaysia (7), Mexico (2), Netherlands (11), Nigeria (8), Pakistan (4), Portugal (2), Russia (4), Singapore (2), Spain (21), Sweden (2), Switzerland (5), Taiwan (4), Thailand (1), Turkey (2), Uganda (1), Ukraine (1), USA (14), Zimbabwe (1).

⁴ We excluded substance use from emotion-focused coping because it had mainly 0 frequencies; we excluded humor because it is often considered an adaptive coping strategy and in many of the studies we reviewed in order to base our hypotheses, only maladaptive coping strategies were included under the category of emotion-focused/avoidant coping.

⁵ There is no theoretical basis to expect emotion-focused/avoidance coping and coping by seeking support to be related to values, thus they are not included in the current analyses.

⁶ Participants were from the following countries (number of participants in parentheses):

Australia (1), Austria (2), Belgium (1), Canada (3), China (10), Cyprus (4), Denmark (3), Finland (8), France (24), Germany (16), Ghana (1), Greece (12), India (1), Iran (1), Israel (2), Italy (8), Japan (2), Malaysia (4), Mexico (1), Netherlands (8), Nigeria (3), Russia (3), Spain (11), Sweden (1), Switzerland (2), Taiwan (1), Turkey (2), USA (1).

⁷ Coping by religion is not considered to be related to personality, thus it is not included in the current analyses.

⁸ Participants were from the following countries (number of participants in parentheses):

Argentina (1), Australia (1), Austria (3), Brazil (2), Bulgaria (1), Canada (3), Chile (1), China (14), Cyprus (2), Denmark (2), Finland (4), France (23), Germany (16), Ghana (1), Greece (5), Hong Kong (2), India (4), Ireland (3), Italy (9), Jamaica (1), Japan (3), Malaysia (3), Mexico (1), Netherlands (3), Nigeria (5), Pakistan (4), Portugal (2), Russia (1), Singapore (2), Spain (10), Sweden (1), Switzerland (3), Taiwan (3), Thailand (1), Uganda (1), Ukraine (1), USA (13), Zimbabwe (1).

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Work on this research has started when the first author was at the University of Kent and completed when the first author was at Royal Holloway University of London.

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Table 1

Comparison of problem-focused and emotion-focused coping strategies CFA models

Models	df	χ^2	$\chi^2/d.f.$	CFI	NNFI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI
<i>Problem-focused</i>									
Step 1: Configural	166	252.23**	1.519	.94	.85	.039	-	-	-
Step 2: Metric	180	263.97**	1.467	.94	.84	.037	11.74	14	.00
Step 3: Intercepts (all items)	195	263.97**	1.354	.95	.84	.032	11.74	29	-.01
<i>Emotion-focused/avoidance</i>									
Step 1: Configural	196	309.88**	1.581	.92	.82	.042	-	-	-
Step 2: Metric	209	322.45**	1.543	.92	.81	.040	12.57	13	.00
Step 3: Intercepts (all items)	227	353.38**	1.557	.92	.81	.033	43.50	31	.00

Note: * $p < .05$; ** $p < .01$. The highest level of invariance achieved is presented in bold. $\chi^2/d.f.$ = chi-square divided by its degrees of freedom;

CFI = Comparative fit index; *NNFI* = Non-normed fit index; *RMSEA* = Root Mean Square Error of Approximation; N = 338.

Table 2

Comparison of religion and seeking social support coping strategies CFA models

Models	df	χ^2	$\chi^2/d.f.$	CFI	NNFI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI
<i>Coping by religion</i>									
Step 1: Configural	2	.55	.276	1.00	.99	.000	-	-	-
Step 2: Metric	5	6.05	1.209	.99	.99	.025	5.50	3	.01
Step 3: Intercepts (all items)	9	6.05**	.672	.99	.99	.020	5.50	7	.01
<i>Seeking social support</i>									
Step 1: Configural	38	77.58**	2.042	.96	.92	.056	-	-	-
Step 2: Metric	42	84.58**	2.014	.96	.92	.055	7.00	6	.00
Step 3: Intercepts (all items)	50	100.26**	2.005	.95	.90	.055	22.68*	12	.00
Step 4: Partial invariance	48	84.58**	1.762	.96	.92	.046	7.00	10	.00

Note: * $p < .05$; ** $p < .01$. The highest level of invariance achieved is presented in bold. $\chi^2/d.f.$ = chi-square divided by its degrees of freedom;

CFI = Comparative fit index; NNFI = Non-normed fit index; RMSEA = Root Mean Square Error of Approximation; N = 338.

Figure Captions

Figure 1. Study 2: Expected model and empirical path analysis presenting the mediation of values to the relations between culture and coping strategies.

Figure 2. Study 3: Expected model and empirical path analysis presenting the mediators to the relationship between culture and coping strategies.

Figure 1

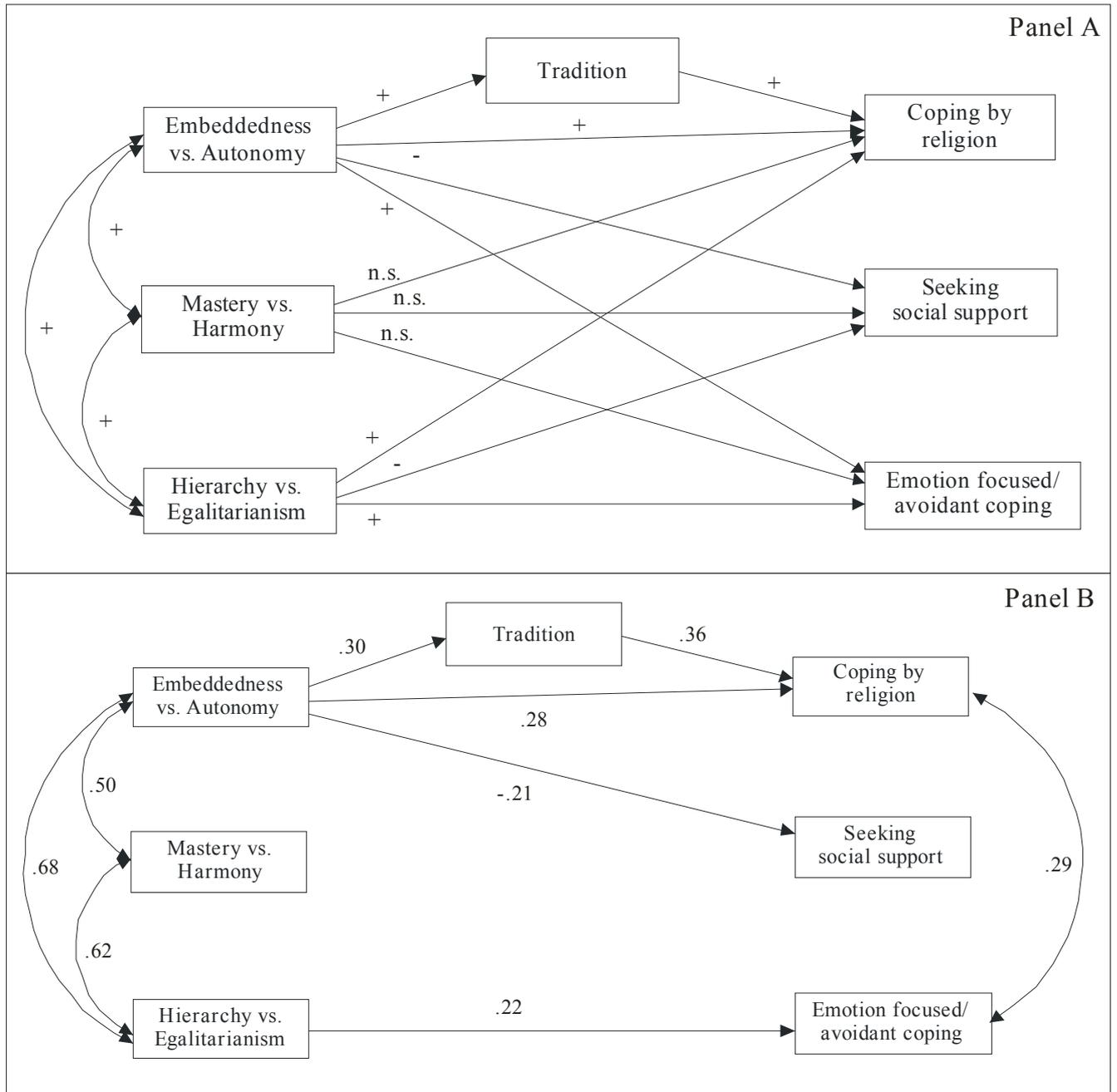
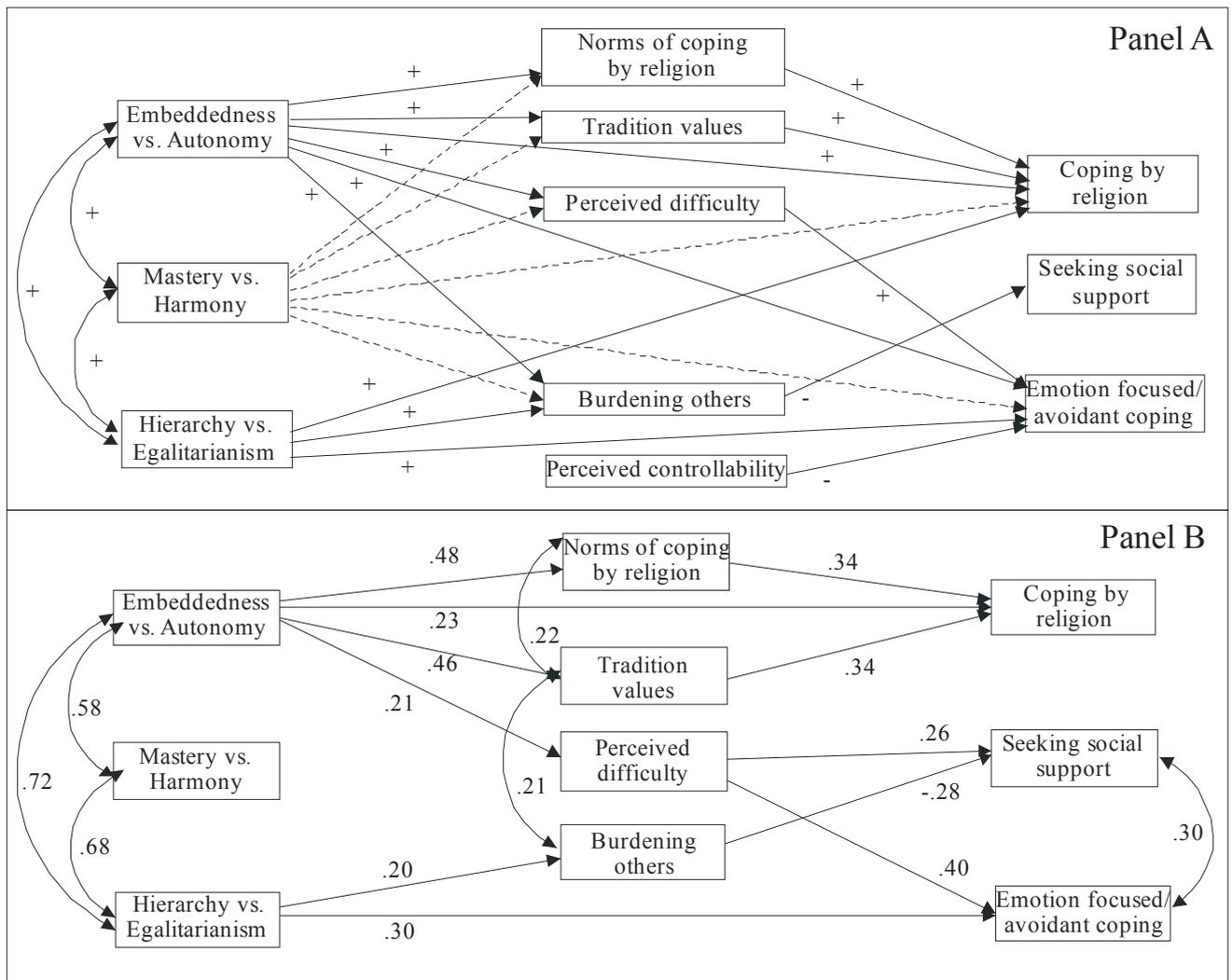


Figure 2



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