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Are Country and Culture Values interchangeable? : A case example using Occupational Stress and coping

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Abstract

Cross-cultural research in occupational stress and coping has produced a wealth of knowledge. Although advancement has been made, there are still problems to be solved. One of these problems is the confusion generated in the literature by researchers claiming nation or country as representing cultural values, and the use of the two terms interchangeably. It remains unclear whether this practice is correct. The present paper reported on this by using 511 full time employees from Australia, Singapore and Sri Lanka to study occupational stress and coping. Results revealed that cultural value paradigm (i.e., Individualism-Collectivism) was distributed across the three nations, such that over 60% of participants across the three nations were either high or low in both I-C paradigms. The findings also indicated that the relationship between cultural value paradigm and country impacted on stress and coping differently. The study shows that significant differences exist within country, as well as between countries, such that any attempt to equate 'culture' with 'country' becomes problematic. Therefore, these findings establish that country or nation was not the same as culture values and could not be used interchangeably.

Key words: Occupational Stress, Transactional Model of Coping, Individualism, Collectivism.

Introduction

Current economic conditions have seen business organisations setting bases in diverse cultures and countries. Given this international diversity of trade and industry, there is a need to understand and identify how occupational stress affects employees within these organisations, and specifically how diverse cultures differ in dealing with this stress. Cross-cultural research in occupational stress and coping has resulted in a proliferation of studies in this area (e.g., Gates, 2001; Goh, 2003; Goh & Oei 2005; Jex & Bliese, 1999). Culture performs an essential role in every component of the stress process, including the occurrence and appraisal of events, coping options, coping strategies, and the adaptational outcomes (Goh, 2003; Scherer, Hwang, Yan, & Li, 2000; Slavin, Rainer, McCreary, & Gowda, 1991). As such, it is suggested that the stress process would vary across cultures, which is why many researchers in stress and coping have taken on a cross-cultural approach (Goh, 2003; Goh & Oei 2005)

According to Lazarus and Folkman's (1984) Transactional Model of stress and coping, stress is not a property of the person or the environment, but arises when there is a conjunction between a specific person and a particular environment, which in turn leads to a threat appraisal. These are divided into primary (personal significance of events) and secondary (coping ability) appraisals. Primary appraisal involves the identification of an event as stressful, whereas secondary appraisal is activated when the individual assesses his or her ability to manage the stressful event. These evaluative and coping processes influence the development and intensity of psychological stress, and result in the formation of coping strategies (Lazarus & Folkman, 1984). This transactional model of coping has been widely accepted in various studies involving health care workers, managers, and entrepreneurs (Hunter & Boyle, 2004; Irvin, 2001).

A major turning point in cross-cultural research occurred when culture was conceived as within the person's realm of perception. This view proposed that all psychological processes have a cultural component (Lavee & Katz, 2003), and psychologists have begun to realize that what was considered universal in psychology may be true in the West, however may not be valid in all populations (Markus & Kitayama, 1991). For example, the effect of work-related stress on employees from different cultures may be similar, however it is suggested that the form of stressors may be different, and may be influenced by cultural and social variables such as values, attitudes, and perceptions. The individualism and collectivism (I-C)

paradigm (Hofstede, 1980) is suggested as a measure of cultural variables in explaining the differences of some social behaviour between Eastern and Western populations. It is argued that individualistic oriented people will tend to interpret and handle occupational stress differently from collectivistic oriented people.

Cultural Paradigm (Individualism vs. Collectivism)

The I-C dimensions intersect the East and West (Hofstede, 1980), and discriminate between the differing values and cultural proliferation necessary in acculturating people's affective and cognitive behaviours, in accordance with the culture to which they belong (Chui & Kosinski and Frederick1995). The most prominent framework used to examine cultural variations of stress and emotion is based on Hofstede's (1980) and Triandis's (1995a) distinction between individualistic and collectivist orientation. In individualistic cultures, often associated with western, industrialized and modern societies, individuals share a strong belief in the independence of self from others. The self is made meaningful primarily through a set of internal attributes, such as goals, desires, abilities, talents, and personality traits. The highest priority is accorded to actualizing individual potential and fulfilling one's roles. As such, individualistic cultures tend to view behavior as a function of these personal attributes and to emphasize values that promote individual goals (Kitayama, Markus, & Lieberman, 1995).

In contrast, collectivist cultures, often associated with non-Western societies, do not value such separation and independence of the self but rather believe in the fundamental connection or interdependence among those within an in-group (Hofstede, 1980; Smith & Bond, 1993). In these cultures, the self is made meaningful through the relationships of which the self is a part. The major task for members of collectivist cultures is to fit in and adjust to the relationships of their in-group while constraining their own personal desires. Thus, collectivist cultures view situational factors, such as norms, roles, and obligations, as major determinants of behavior and emphasize values that promote the welfare of their in-group (Hofstede, 1980; Kitayama et al., 1995; Smith & Bond, 1993; Triandis, 1995a, 1995b).

However, this model is not as detailed in terms of the values it used to underpin the dimensions as that of Schwartz's list of 56 values (Schwartz, 1992; Schwartz & Bilsky, 1987, 1990) that has high consistency with Hofstede's dimensions. Schwartz's model has the advantage of being more culturally robust because the values were not originally constructed

for use within any specific culture. Rather, it drew upon both western and non-western sources (Smith & Bond, 1993). Schwartz's model was also found to be relevant on both cultural and individual levels (Smith & Bond, 1993). Hence, the versatility and comprehensiveness of Schwartz's model proved to be a more suitable alternative for the present study than Hofstede's model.

“Country” vs. “Culture values”

A major limitation of many cross-cultural studies is that they have used 'country' as the independent variable, and then interpreted this as equivalent to 'culture'. Two critical problems arise when 'country' or 'nation' is used interchangeably with cultural values. Firstly, it creates an ecological fallacy. That is, it makes assertions about one type of unit of analysis, such as culture, on the basis of the examination of another, such as country or ethnic group (Babbie, 1989). Due to this ecological fallacy, it may be problematic to infer individual attitudes from aggregate data because a national context does not necessarily reflect corresponding behaviour at an individual level. Secondly, using aggregate data results in all citizens in a country is being regarded equally, despite obvious differences. Such a conception assumes homogeneity of cultural orientations within countries (see Eaton & Louw, 2000; Goh, 2003; Jackson & Sears, 1992; Schaubroeck, Lam & Xie, 2000; Sun & Stewart, 2000), whereas it is more than likely that cultural diversity exists within countries as it does between countries (Lavee & Katz, 2003). As such, the findings from studies assuming nation as equal to culture values are unreliable and not valid because the logic are not tenable (Babbie, 1989). A first step in overcoming these problems is to clearly demonstrate that the assumption that the constructs of country and culture are equal and changeable is not supported empirically. This paper reported on such a study.

To accurately differentiate between these constructs, 'country' or 'nation' is often defined by a government and people occupying a particular state or territory. Conversely, 'culture' includes a system of shared meanings or values that members of a particular cultural group use to attribute to the persons and objects making up the culture (Goh, 2003; Smith & Bond, 1993). As such, it is suggested that beliefs or values, which culture has a significant role in determining, influence the cognitive and subsequent behavioural responses to self, others, and events. Therefore, it is expected that individuals of different cultures would vary in their perceptions and behaviours, including perceptions leading to appraisal and subsequent coping of stressor at work (Goh, 2003).

Previous research that has used the concepts of 'country' (or 'nation') and 'culture' interchangeably has created a great deal of confusion in the literature. However, it is still unclear whether nation and culture values can be used interchangeably. The present paper proposes that 'country' or 'nation', and 'culture' should not be used interchangeably by showing that the I-C distribution of employees varies across three nations (Australia, Singapore and Sri Lanka), and that the relationship between I-C paradigm and nation in occupational stress and coping process would be different.

The paper is trying to demonstrate that there is significant difference within country as well as between countries such that any attempt to equate culture with country becomes problematic. To prove that the nation is different from cultural paradigm (Individualism and Collectivism); it is hypothesized that significant differences will be found between the distributions of cultural paradigm across Australian, Singaporean and Sri Lankan employees. It is further hypothesised that nation and cultural paradigm will affect stress-coping process variables differently, such that the separate cultural classifications will predict specific stress appraisal and coping methods.

Method

Participants

A total of 511 full time working adults responded to the current study, which included 156 Australians, 145 Singaporeans, and 210 Sri Lankans. The Australian sample included 46 males (age: $M = 34$ years) and 109 females (age: $M = 36$ years). One participant did not report his or her gender. The Singaporean participants included 45 males (age: $M = 32$ years) and 97 females (age: $M = 36$ years), whereas the Sri Lankan participants included 112 males (age: $M = 39$ years) and 95 females (age: $M = 37$ years). Three participants from each of the Singaporean and Sri Lankan respondents failed to report their gender.

All participants were employed in skilled manual and non-manual occupations (e.g., nursing, fire fighting, clerical and administration) that involved interacting with a large number of people. Most of the participants had completed at least a senior high school level of education, which ensured that participants clearly understood the survey items, and were able to answer the questionnaires with ease and accuracy.

Measures

Schwartz's Values Survey (Schwartz, 1992). This survey consists of 57 items that measure cultural values with a descriptive statement accompanying each item. Participants were asked to rate on a nine-point scale how important each value is as a guiding principle in their life (Feather, 1993, 1994). The scale ranges from 0 = (Not important) to 7 = (Of supreme importance). Based on the cultural definition for this study, individualistic and collectivistic subscales were used. The 15 values under the collectivism dimension are 1) family security, 2) respect for tradition, 3) social order, 4) clean, 5) moderate, 6) forgiving, 7) honour one's elders, 8) politeness, 9) protecting public image, 10) national security, 11) obedient, 12) wisdom, 13) devout, 14) reciprocation of favours, and 15) self discipline. The Individualism dimensions included Intellectual Autonomy/ Individualism (i.e., creativity, broad mindedness and curiosity) and Affective Autonomy/Individualism (i.e., varied life, exciting life, pleasure, and enjoying life). Cronbach Alpha conducted by Goh (2003) showed high reliability values for this measure.

Ways of Coping Checklist (Vitaliano, Russo, Carr, Maiuro & Becker, 1985). The Ways of Coping Checklist includes 42 items within 5 categories: Problem-focus coping (15 items; e.g., Came up with a couple of different solutions to the problem); Seek social support (6 items; e.g., Talked to someone about how I was feeling); Blame self (3 items; e.g., Criticised or lectured myself); Wishful thinking (8 items; e.g., Hoped a miracle would happen); and avoidance (10 items; e.g., Went on as if nothing had happened). Cronbach's Alpha showed high reliability values of 0.87 for high level of stress and 0.90 for low level of stress from the two groups of participants.

Occupational Stress Inventory (OSI: Osipow & Spokane, 1987) measured the overall occupational stress level of respondents. There were three sub-scales; Occupational Stress, Psychological Stress, and Coping Resources, however, the coping resources sub-scale was not used in this study. Some examples of the 40 items in occupational stress were; "I have competent in what I do" and "If I make a mistake in my work, the consequences for others can be pretty bad". Some examples of from the 40 items psychological stress were; "My eating habits are erratic" and "Lately, I have been anxious". Participants were asked to rate the extent to which the identified stressful event had affected them in general at work. Both

subscales used a 5 point rating scale ranging from 1= (Is rarely or never) to 5 = (Is most of the time). This measure has shown to have high internal consistency (Cronbach Alpha = 0.92; Goh, 2003).

Depression-Anxiety-Stress scales -21 items (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 is a 21 item self-report questionnaire, which includes measures of Depression (e.g., Loss of self-esteem/incentives and depressed mood), Anxiety (e.g., Fear and anticipation of negative events) and Stress (e.g., Persistent state of over arousal and low frustration tolerance. Participants were asked to rate how much each of the items applied to them over the past week with 0 = (did not apply to me at all) to 3=(applied to me very much, of most of the time). The higher the score the more serious the emotional distress is. The measure is considered to have strong psychometric properties with Goh (2003) reporting a mean alpha coefficient of .93.

Measures of Primary and Secondary Appraisal. The items for this measure were adapted from Dewe (1991), and consisted of 8 items (e.g., Feeling that you would not achieve an important goal; feeling you would lose the respect of someone important to you), which reflect the participant's perception of stress in an encountered event. Participants were asked to rate on a 5 point scale, 1= (Not at all) to 5 = (Applies a great deal), how applicable each of the feelings were in relation to a particular work event that they had identified. In the secondary appraisal scale, participants were told to consider each of the six items and to describe, on the same 5 point scale, how much each of the items relates to a specified stressful event (e.g., An event that you could change or do something about; an event that must be accepted or just get used to). These items reflect how participants would actually cope with the identified stressful event. The measure has shown to have good internal reliability ($\alpha = .86$; Goh (2003).

All of the questionnaires were first translated from English into the local language of each country, and then back translated into English by a qualified translator. Following this, the original questionnaire was compared with the back translated English version and differences were resolved through discussion (See Goh & Oei 2005). This process was used to help ensure an accurate and literal translation of the original language version of the questionnaire.

Procedure

The recruitment of participants involved contacting various institutions, specifically hospitals, universities and other organizations from both private and public sectors, either through direct contact (e.g., telephone) or electronic mail and post. For the Australian sample, additional recruitment was conducted through an advertisement in the University of Queensland newspaper and through the School of Psychology.

Questionnaires were mailed directly to participants, or to well-trained collaborators in Singapore, Sri Lanka and Australia who were fully instructed in the procedure of administering the assessment. Completed questionnaires were then sent back to the researchers for analysis. Prior to completing the questionnaires, participants were required to sign a consent form, and were informed that they were free to terminate their involvement in the study at any time. Australian and Sri Lankan participants received a free movie ticket for their participation in the research, whereas Singaporean participants were involved in this study on a voluntary basis.

Results

Preliminary Analysis

All relevant variables of stress process and I-C dimension were screened using SPSS. Frequencies procedures were used to test for normality, linearity, and homoscedasticity. The cut off skewness and kurtosis for each variable was set at <0.40 . The screening process was conducted on the data sets for all three nations. Data from the Australian sample showed overall coping had a kurtosis above 0.40. Transformation was carried out with logarithm to normalize overall coping. In the Singaporean data set, three variables obtained kurtosis levels above the cut off points. They were stress level, collectivism and problem-focused coping. Transformation procedures were applied onto the variables but failed to improve their kurtosis level. In the case of stress level, transformation attempts led to a reduction of sample size as some cases had missing stress level values after transformation. In view of the fact that their skewness levels were within the 0.4 cut off mark, and any attempt to normalise their kurtosis risk would change the normality of their skewness or reducing the sample size, it was decided that stress level, collectivism and problem focused coping should remain as they were. The Sri Lankan data set was first screened and it had three variables above the cut off point of 0.4 for normality. They were primary appraisal, collectivism and psychological

climate. Collectivism had > 0.4 skewness and kurtosis levels. Transformation procedures were carried out to normalise the problem variables. Primary appraisal was normalised using square root and logarithm respectively, whereas collectivism and psychological climate needed to be reflected first then square root applied to both before normality was achieved given that the variables were negatively skewed.

Independent variables were classified into a 2 (High individualism; Low Individualism) x 2 (High collectivism; Low Collectivism) design, using chi-square to determine the distribution of those independent variables across the three nations. Multivariate analysis of variance (MANOVA) was used to determine the relationship between I-C dimensions and stress and coping process variables. The Scheffe post hoc test was then used to identify the groups that differed significantly, $p < .01$.

Testing Nation as the same as culture values

Australian Sample

A separate Chi-square analysis was conducted for each nation. As shown in Table 1, there were significant differences among the Australian participants. The results revealed that there were 21.2% in the High collectivism dimension and 18.8% in the High Individualism dimension. Additionally, 30.6% of participants reflected low levels in both the individualism and collectivism dimensions, whereas 29.4% had high levels of both individualistic and collectivistic paradigm scores, $\chi^2 (1, N=170) = 6.84, p < .05$.

Singaporean Sample

As can be seen from Table 1., there were 10.7% of participants in the High Collectivism dimension, and 25.2% in the High Individualism dimension. Additionally, 29% of participants reflected low levels in both the individualism and collectivism dimensions, whereas 35.1% displayed high levels of both individualistic and collectivistic paradigm scores. Chi-square tests also revealed a significant difference between nation and I-C paradigm, $\chi^2 (1, n=131) = 12.38; p < .05$.

Sri Lanka Sample

Similarly, as shown in Table 1, there were 13.8% of Sri Lankan participants in the High Collectivism dimension, whereas 11.9% had scores displaying High Individualism. Additionally, 28.6% of participants reflected low levels in both the individualism and

collectivism dimensions, while 45.7% were in the high levels of both individualistic and collectivistic paradigm. The chi-square tests revealed a highly significant difference between nation and I-C aspect for the Sri Lankan participants, $\chi^2(1, n=210) = 46.53, p < .05$.

INSERT TABLE 1 HERE

The results strongly revealed that Nation and culture values are not the same and thus cannot be treated as interchangeable. If Nation and culture value were the same we would expect that Australian data will have 100% collectivism and Sri Lanka and Singapore have 100% individualism.

Occupational Stress and Coping dimension:

For each dependent variable (primary and secondary appraisals; problem focus, emotional focus and overall coping strategies, occupational stress and depression, anxiety, and stress), MANOVA and Post hoc tests were computed. Results from Scheffe post hoc analysis is shown Table 2 (column 1).

INSERT TABLE 2 HERE

MANOVA conducted on the cognitive processes of primary ($F = 20.01, p < .01$) and secondary ($F = 8.24, p < .01$) appraisals showed that Australians and Singaporeans had significantly higher primary appraisal scores than Sri Lankans. However, there were no significant differences between Australian and Singaporean samples. Secondary appraisal, results showed that Australians and Sri Lankans had significantly higher scores than Singaporeans; however there was no difference between Australians and Sri Lankans on their perceived ability to cope with a stressful situation.

The Post hoc tests show significant differences across the three nations on problem focused coping strategy ($F = 16.38, p < .01$), however follow-up tests revealed that Singaporeans tended to employ problem focus coping more than Australians and Sri Lankans, with no significant differences between these latter two groups. A similar pattern of results was also found for emotion-focused coping ($F = 16.88, p < .01$). These findings were further qualified

by overall coping strategies scores (i.e., the combination of problem and emotional focuses), which revealed that Singaporeans were significantly different ($F = 9.21, p < .01$) from Australians and Sri Lankans, however no significant difference existed between these latter two countries.

The results also revealed that Australians differed significantly ($F = 9.03, p < .01$) from Singaporeans and Sri Lankans on psychological stress, such that Australians tended to report higher rates than the other two countries. However, no significant differences were found between Singaporeans and Sri Lankans. Conversely, Singaporeans tended to report higher rates of occupational stress ($F = 9.68, p < .01$) than Australians, yet this difference was not found between Singaporeans and Sri Lankans, or Australians and Sri Lankans.

Finally, Anxiety scores between the three countries were found to be significantly different ($F = 5.99, p < .05$), with Australians reporting lower Anxiety than Singaporeans and Sri Lankans.

Testing the effects of each Cultural Paradigm on Dependent Variables

The Scheffe Post hoc results indicated that there were only two significant dependent variables, which were primary appraisal and problem focus coping strategy (Table 2; Column 2). MANOVA conducted on the cognitive processes of primary appraisal ($F = 7.77, p < .01$) showed that participants who were classified as Low Collectivism/Low Individualism perceived stress as a threat less than those participants who were classified as Low Collectivism/ High Individualism. Similarly, there were significant differences between Low Collectivism/High Individualism and High Collectivism/High Individualism. On problem focus coping strategy, Low Collectivism/Low Individualism participants tended to cope with their stress using problem focused strategies more than Low Collectivism/High Individualism participants.

Testing Interaction Effects of Nations and Cultural Paradigm on Dependent Variables

There were significant differences among dependent variables comparing nations and cultural paradigm (Table 2; Column 3). It was found that Low Collectivism/Low Individualism Sri Lankans were significantly different on primary appraisal ($F = 1.66, p < .05$). High collectivism/Low Individualism, and High Collectivism/High Individualism Sri Lankans also differed significantly on secondary appraisal ($F = 1.95, p < .05$). Further, Low

collectivism/High Individualism Singaporeans were significantly different on psychological stress ($F = 3.73, p < .05$), whereas High Collectivism/High Individualism Australians were significantly different on occupational stress ($F = 1.74, p < .05$).

On problem focus coping, Low Collectivism/High Individualism and High Collectivism/Low Individualism Australians were significantly different ($F = 2.75, p < .05$). Likewise, High collectivism/Low Individualism Australians were significantly different on emotional focus coping ($F = 1.82, p < .05$). High collectivism/High Individualism Singaporeans were significant different on overall coping strategy ($F = 2.83, p < .05$). Low collectivism/Low Individualism Singaporeans were significant different on clinical stress ($F = 2.29, p < .05$). Similarly, Low Collectivism/Low Individualism and High Collectivism/Low Individualism Sri Lankans were significantly different ($F = 11.70, p < .05$). On the anxiety variable, there was a significant difference among Low Collectivism/High Individualism Australians ($F = 1.82, p < .05$).

Discussion

The purpose of the current study was to investigate whether Nation and culture values were the same using the culture values of I and C on occupational stress. Our findings clearly demonstrated that the Nation and Culture values are not the same and thus cannot be used as interchangeable. The present findings revealed a significant distribution of cultural paradigms (Individualism and Collectivism) across the three nations. Furthermore, the present findings indicated that over 60% of participants across the three nations were either low or high in both I-C paradigms, and as such, it is argued that the “East” and “West” demarcation of culture, as distinguished by Hofstede’s (1980) I-C paradigm, might not be sufficient any longer. These results support those of Freeman & Bordia (2001) who suggested that the collectivism and individualism constructs might not be bi-polar opposite. Similarly, Voronov and Singer (2002) found that in addition to cross-national differences in I-C, findings might be impacted upon further by significant within-country differences. For example, China has historically been categorized as a collectivist society; however Ho and Chiu (1994) challenged this perspective analyzing 9,995 popular Chinese colloquialisms, of which 458 were judged to be relevant to I-C. Although there were more sayings that affirmed collectivism rather than individualism, there was also a substantial number that affirmed individualism rather than negating it. Given this finding, it could be argued that at a cultural value level, China could not be considered a pure collectivist society (Voronov & Singer,

2002). This is particularly the case in the modern China in 2006 where the recent economical and technological advances have transformed China so significantly from a agricultural and rural society to manufacturing and city living society. Therefore it is advisable that the I-C paradigm is not used as a single continuum scale to differentiate one nation from another. The current study also investigated the effect of “country” and “cultural paradigm” on the variables within the stress and coping process variables. From the “country” perspective, Australians and Singaporeans perceived a greater tendency to appraise work demands as more stressful (high primary appraisal) than Sri Lankans. Similarly on the perception of control over stressor (secondary appraisal), Australians perceived a greater control over stressor than Singaporeans, whereas Singaporeans perceived a greater control over stress than Sri Lankans. The Singaporean sample was most intense in their employment of problem and emotional focus coping than the Australian and Sri Lankan samples. Although, the Australian sample scored significantly higher in problem focused coping, it was also notable that the Australian sample’s occupational stress scores were higher than Singaporean and Sri Lankan samples. This finding is consistent with Goh’s (2003) study that found that people who had a higher perception of threat also had an increased level of stress. However, the average anxiety scores from Australian and Sri Lankan samples were within normal levels, whereas Singaporean samples were considered within a mild level of anxiety based on Lovibond and Lovibond’s (1995) guidelines. Finally, according to national perspective and Transactional theory, Australians tended to have high primary appraisal but perceived a greater control over stressor than Singaporeans and Sri Lankans. A significant difference was found between Low collectivism/Low Individualism participants and Low Collectivism/High Individualism participants on primary appraisal and problem focus coping. There were no significant differences among High Collectivism/Low Individualism and High Collectivism/High Individualism participants.

A significant difference was also found between the nations by cultural dimension. According to the different results for “nation” and “I-C paradigm”, it is argued that the constructs of nation and culture should be discussed separately in future research. Specifically, the current study has shown that ‘country’ and ‘culture’ are independent constructs, and therefore cannot be used interchangeably in cross-cultural research. Further, culture and country cannot be used as the same construct when we talk about subjects such as stress and coping and other variables, as demonstrated by the disparities between the three groups.

Arguably, a major limitation of this study is the differential representativeness of the samples for each country. Future research needs to control for organization type such that if the sample consists of employees from a multinational high-technology corporation, the participants would more than likely be highly educated and highly skilled managers, technicians, and other white-collar professionals. Indeed, it is questionable how representative such a sample would be for any country. Further, due to the skewed distribution of participants' educational levels (all participants had completed senior level high school as a minimum), education might have produced a moderating and/or mediating effect on various outcomes/dependent variables, such as primary appraisal. Moreover, the divergence from the general population differs from one country to the next, depending on its wealth (Voronov & Singer, 2002). As Schwartz (1994) indicated, deviation from the general population is possibly greater, for example, in third world countries (e.g., El Salvador, Pakistan) than in industrialized western nations (e.g., Switzerland, United States). Thus, it is unclear whether a given country's score on the I-C dimension reflects the country's orientation, or the orientation of one large high-technology company's employees in that particular country. It is therefore suggested that one has to see 'country' as having two separate classifications; one based on its geographical border and one based on its culture.

Implications

The cross cultural implications of this study's findings are considerable; it has been shown that the occupational stress and coping strategies are different between national based and cultural based paradigm. This is an important area of research because of the globalisation of the world. People are more mobile and same as companies. These days it is common to have an organisation with a diverse mixed of people from different culture and different countries working together. Organisations are now setting bases in different culture and countries. Since the occupational stress is increasingly costly to organisations and individuals working in there, there is a need to understand how people of different culture and from different country cope with stress. This paper shows clearly that the two constructs of culture and nation are different and separate; this will pave the way to learning how appraisal and coping of stress at work are influence by factors from the culture dimensions and factors from country dimensions.

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Table 1: The distribution of Individualism- Collectivism (I-C) paradigm across three nations independently.

Nation	Individualism-Collectivism (I-C) paradigm	Overall Percentages	Pearson's Chi Square Values
Australia	Low C - Low I	30.6	$\chi^2 (1, n=170) = 6.84, p < .05.$
	Low C - High I	18.8	
	High C - Low I	21.2	
	High C - High I	29.4	
Singapore	Low C - Low I	29	$\chi^2 (1, n=131) = 12.38; p < .05.$
	Low C - High I	25.2	
	High C - Low I	10.7	
	High C - High I	35.1	
Sri Lanka	Low C - Low I	28.6	$\chi^2 (1, n=210) = 46.53, p < .05.$
	Low C - High I	11.9	
	High C - Low I	13.8	
	High C - High I	45.7	

Table 2: Comparison of means for nations, cultural dimension and the interaction between nation and cultural dimension on Occupational stress variables

Variables	By Nation			By Cultural Paradigm			Interaction Comparison	
	Mean	F values	Post hoc test	Cultural mean	F values	Post hoc test	Nation X Culture	F Values
Primary appraisal	AU = 2.44 SI = 2.35 SR = 1.98	20.01*	AU-SI AU-SR* SI-SR*	1 = 2.06 2 = 2.44 3 = 2.34 4 = 2.12	7.77*	1-2 = - 1-3 = .3817* 1-4 = -.2824 1-4 = -.0613 2-3 = .0993 2-4 = .3204* 3-4 = .2211	SR-1*	1.664
Secondary appraisal	AU = 3.10 SI = 2.93 SR = 3.15	5.87*	AU-SI* AU-SR SI-SR*	1 = 3.09 2 = 3.08 3 = 3.06 4 = 3.06	.13	1-2 = .0053 1-3 = .0329 1-4 = .0287 2-3 = .0276 2-4 = .0234 3-4 = -.0042	SR-3* SR-4*	1.954
Problem focus coping	AU = 3.04 SI = 3.40 SR = 3.01	15.50*	AU-SI* AU-SR SI-SR*	1 = 3.24 2 = 3.02 3 = 3.03 4 = 3.11	3.46*	1-2 = .2148* 1-3 = .2057 1-4 = .1243 2-3 = -.0091 2-4 = -.0905 3-4 = -.0815	AU-2* AU-3*	2.754
Emotional focus coping	AU = 2.84 SI = 3.35 SR = 2.96	15.45*	AU-SI* AU-SR SI-SR*	1 = 3.11 2 = 2.97 3 = 2.85 4 = 3.04	2.23	1-2 = .1401 1-3 = .2593 1-4 = .0667 2-3 = .1193 2-4 = -.0734 3-4 = -.1926	AU-3*	1.822

Variables	By Nation			By Cultural Paradigm			Interaction Comparison	
	Mean	F values	Post hoc test	Cultural mean	F values	Post hoc test	Nation X Culture	F Values
Overall coping	AU = 2.16 SI = 2.38 SR = 2.09	7.85*	AU-SI* AU-SR SI-SR*	1 = 2.20 2 = 2.22 3 = 2.11 4 = 2.18	.625	1-2 = -.0145 1-3 = .0977 1-4 = .0255 2-3 = .1123 2-4 = .0400 3-4 = -.0722	SI-4*	2.828
Psychological stress	AU = 2.32 SI = 2.12 SR = 2.13	8.05*	AU-SI* AU-SR* SI-SR	1 = 2.15 2 = 2.23 3 = 2.27 4 = 2.12	2.11	1-2 = -.0787 1-3 = -.1197 1-4 = .0295 2-3 = -.0410 2-4 = .1083 3-4 = .1493	SI-2*	3.726
Occupational stress	AU = 1.43 SI = 1.58 SR = 1.51	9.13*	AU-SI* AU-SR SI-SR	1 = 1.55 2 = 1.48 3 = 1.45 4 = 1.49	2.44	1-2 = .0663 1-3 = .0991 1-4 = .0545 2-3 = .0328 2-4 = -.0117 3-4 = -.0445	AU-4*	1.737
Depression	AU = 10.64 SI = 10.37 SR = 22.85	NA	NA	1 = 9.52 2 = 10.30 3 = 10.10 4 = 10.45	.42	1-2 = -.7813 1-3 = -.5804 1-4 = -.9275 2-3 = .2010 2-4 = -.1462 3-4 = -.3471	NA	NA

Variables	By Nation			By Cultural Paradigm			Interaction Comparison	
	Mean	F values	Post hoc test	Cultural mean	F values	Post hoc test	Nation X Culture	F Values
Stress	AU = 22.96 SI = 21.55 SR = 22.81	6.681*	AU-SI* AU-SR SI-SR*	1 = 22.83 2 = 22.74 3 = 22.63 4 = 21.67	2.55	1-2 = .0934 1-3 = .2009 1-4 = 1.1643 2-3 = .1075 2-4 = 1.0709 3-4 = .9634	SI-1* SR-1* SR-3*	11.696

(AU-Australian; SI- Singaporean; SR=Sri Lankan; 1 = Low Collectivism-Low Individualism; 2 = Low Collectivism-High Individualism; 3 = High Collectivism-Low Individualism; 4 = High Collectivism-High Individualism). (*significant level $p < .05$)