Introduction

The attribution-of-responsibility for stress model was developed, with empirical support, in studies of a large education system in New South Wales Australia (McCormick, in press a; McCormick, in press b; McCormick and Solman, 1992a; McCormick and Solman, 1992b). The model is essentially concerned with how teachers in an education system cognitively organise domains to which responsibility can be attributed for their occupational stress. Weick (1978) suggested that schools and school systems may be conceptualised as loosely-coupled systems. One possible consequence of loose-coupling is that rather than thinking of themselves, their schools, education authorities and salient others in terms of sub systems within sub systems within systems, teachers may conceptualise these entities as being at varying distances from the self. Teachers may be expected to develop schemas which relate self to these other entities (Lord and Foti, 1986). One might expect, for example, teachers to generally conceptualise their school organisations as relatively closer to self than the education authority within which they work.

Although the majority of published writing on Attribution Theory relates to specific life events (Forsterling, 1988; Jaspers, Hewstone and Fincham, 1983, Weary, Stanley and Harvey, 1989), some account is taken of the contribution of earlier experience and specifically, the development of schemas (Anderson, 1991; Weary, Stanley and Harvey, 1989). Relating the above to the occupational stress of teachers, the latter may be expected to develop attribution schemas which explain, or attribute responsibility for aspects of their occupational stress, when the perceived source of that stress is relatively stable over a period of time. For example, a teacher may develop an attribution schema for stress associated with uncooperative students, when some students are perceived to be consistently uncooperative over time.

Whilst acknowledging the existence of positive stress, or eustress (Selye, 1976), An important element of the attribution-of-responsibility model is the negative nature of occupational stress. This could introduce, for some teachers, a notion of success or failure. In short, responsibility for one's own stress may be associated with a sense of personal failure. The potential for such a sense of failure renders the attribution phenomenon known as the self-serving or hedonic bias salient to the attribution-of-responsibility for stress model (Anderson, 1991; Forsterling, 1988; Weiner, 1985). The self-serving bias is the tendency to take credit for success and deny responsibility for failure.

Drawing the various elements of the attribution-of-responsibility model together, teachers may be expected to develop attribution schemas which attribute responsibility for their stress to various domains; incorporated within these schemas is psychological distancing of those domains. Moreover, teachers will attribute greater responsibility for

their stress to domains which are distant from the personal domain (self).

In recent years, the construct of individualism-collectivism has been one of the most reliable and meaningful cross-cultural predictors of social behaviour (Smith and Bond, 1993; Triandis, McCusker, Betancourt, Iwao, Leung, Salazar, Setiadi, Sinha, Touzard and Zaleski, 1993). Individualism-collectivism was identified by Hofstede (1980a) in a study employing a massive sample of 117 000 individuals, employees of a large multinational company, in 40 countries. According to Hofstede:

Individualism implies a loosely knit social framework in which people are supposed to take care of themselves and of their immediate families

only, while collectivism is characterized by a tight social framework in which people distinguish between in-groups and out-groups. (1980b, p.45)

It is important to not oversimplify the individualism-collectivism construct. Although individualism-collectivism has been identified as a universal, or etic, it varies in its expression from one culture to another. Moreover, one may expect considerable variation at the individual level (Triandis et al, 1993). Whilst the attachment to, and identification with, in-groups is generally stronger in collectivist cultures, in those cultures the number of salient in-groups tends to be small. On the other hand, whilst members of an individualist culture do not have comparable intense attachments to in-groups, they can be expected to identify with more in-groups, and to move more freely between them (Triandis, 1994). Individualism-collectivism, then, is a matter of degree, rather than absolute categorisation, and in any particular culture, may vary according to any particular situation (Triandis et al, 1993).

Whilst cautioning against over-simplification, Tajfel (1978), posited that a part of an individual's self-concept will originate from his or her knowledge of membership of social groups, and emotional consequences of that group membership. A further aspect of this theory of social identity is the notion of social categorisation. Tajfel (1978) suggested that, for individuals, part of the process of making sense of the social environment involves categorising or grouping other persons. This conceptualisation is consistent with Cultural Self-representation Theory (Erez, 1994) which adapts the values inherent in individualism-collectivism to self-representation involving a sense of independence from or interdependence with others.

In an important review, Markus and Kitayama (1991), described how the Western view of self, independent and autonomous, is not consistent with the view in some Asian countries: interdependent and defined, in part by relationships with others. Moreover, in conveying the

connectedness of self and others, Whilst Markus and Kitayama (1991) did not explicitly employ the notion of conceptual distance of others from self, clearly such a notion was implicit in describing the overlap of self with others in the interdependent view of self, and the separation of others from self, in the independent view. Such a conceptualisation is central to this paper.

Arguably, the psychological distancing associated with the attribution of responsibility for stress model can be related to individualism-collectivism. In-group and out-group membership is relevant in both culture types. However, as indicated earlier, group membership may be expected to play a greater part in collectivist cultures than in individualistic cultures, and in the former, in-groups would be relatively closer to self .

Kashima and Triandis (1986) suggested that, in dealing with personal success and failure, American students employed the self-serving bias, whilst Japanese students did not. A comparable phenomenon, the group-serving bias, whereby one favours one's group when ascribing success or failure to a group activity, is personally modest about one's contribution to success, and self-critical in explaining failure, has been identified in both collectivist and individualist contexts (Bond, Hewstone, Wan and Chiu, 1985; Bond et al., 1984; Forsyth, Berger and Mitchell, 1981; Forsyth and Mitchell, 1979). Relating these results to teachers' attributions of responsibility for occupational stress in a collectivist China and an individualist Australia, one might expect Australians to employ a self-serving bias and Chinese to not do so, and

both groups to employ a group-serving bias.

Some issues related to cross-cultural research of attribution processes should be canvassed. First, several studies have received considerable criticism (Bond and Smith, 1996), largely, on the basis that western researchers' concepts are often assumed to coincide with subjects' thinking in non-western countries. Second, there is also evidence that non-westerners take more account of context when making attributions (Morris and Peng, 1994), and are less inclined to make attributions based upon perceptions of internal dispositions (Kashima, Siegel, Tanaka and Kashima, 1992).

This paper reports part of a study which was carried out to compare the attribution of responsibility for occupational stress by teachers in New South Wales Australia with counterparts in Hebei Province, Peoples' Republic of China. The broad purposes of the study were to:

(1)test the applicability of the attribution-of-responsibility for stress model in a different cultural context, and
(2)identify possible cross-cultural differences in the attribution of occupational stress.

Method

The Samples

The data (n=487) for New South Wales teachers were part of an earlier study (McCormick, in press a), and were from a random stratified State-wide sample. The Chinese sample (n=200) was drawn from teachers attending the institution of the second author in Shijiazhuang Hebei Province, Peoples' Republic of China. Although drawing a random sample in Hebei was considered, it was considered impractical in that context. Similar decisions have been made by other researchers (for example, Chandler, Shama, Wolf and Planchard, 1981; Earley, 1989; Triandis, 1972). Consequently, this group was selected in such a manner as to broadly reflect the demographics associated with urban-rural schools and primary-secondary schools, in Hebei Province.

The instrument

The instrument was translated from English to Chinese by the second author. The translation was checked for accuracy by several bilingual Chinese educators, and adjusted accordingly. Not all measures are reported here. Those reported here are: a global measure of occupational stress, "In general, how stressful do you find being a teacher?"; choices were 1-"not at all", 2-"mildly", 3-"moderately", 4-"very" and 5-"extremely"; a measure of attribution of responsibility, "Below are listed persons and institutions whom you may, or may not, consider responsible for your occupational stress. Please indicate...how responsible you feel each is"; the choices were 1-"not at all", 2-"slightly", 3-"moderately", 4-"very" and 5-"extremely"; and a 14-item version of the "Locus of Control of Behaviour" Scale (Craig, Franklin and Andrews, 1984), which, when items are scored, from 0 to 5 and added, renders a measure of "externality".

Results and discussion

Comparison of the global measure of occupational stress for NSW (M=3.38, SD=.93) and Hebei (M=3.28, SD=.96) indicated that there was no statistically significant difference ($F(4,670)=.92$, $p>.45$). Other measures of various dimensions of occupational stress were obtained, but are not reported here. Whilst being cautious about the multidimensionality of the stress phenomenon, this provides some evidence of parity, of perceived global occupational stress.

For the sake of comparison, for each of the responsibility items, the

percentages of teachers who responded in the two extremes `very' and `extremely' were added, and are represented graphically in Figure 1. The Hebei teachers attributed greater responsibility to all categories, with the exception of Government and Department of Education, than their NSW counterparts. However, the attribution patterns for those categories which are conceptually "close" to self are quite similar. Some aspects are worthy of further attention. One explanation for the

relatively low mean for peers, for both samples, is that, generally, peers provided support for these teachers, and this level of support mediated the level of responsibility for stress. However, there is another explanation. Namely, peers were members of an in-group and these data may reflect a group-serving bias. Moreover, the percentage of Hebei teachers responding in the extreme points of the scale to `yourself' is higher than for all categories, except `superiors' and `Society'. The Hebei teachers, unlike the NSW teachers, did not attribute greater responsibility for their stress to the Government and Department of Education.

It may well be that the differentiated responses of these two groups reflect objective differences in their occupational stress, and, certainly, the nature of these data preclude any firm explanations of the differences. Nevertheless, it is reasonable to seek possible explanations in terms of established cultural differences. That is, in this instance, in terms of individualism-collectivism, and how that construct relates to self.

Australia is an individualist society and China is collectivist (Hofstede, 1980b). Consequently, one may generally expect the Australian teachers to more readily isolate the self from other entities. The Chinese teachers, however, generally have a collective self, and hence one may not expect the same conceptual distancing which is an explanation of the Australian teachers' attribution pattern. Moreover, the Chinese teachers were less likely to employ the self-serving bias when making attributions (Kashima and Triandis, 1986). Notwithstanding this view, it is possible that at the school level both the Hebei and the NSW teachers may reasonably be viewed as collectivist. That is, many of the latter may have employed both a self-serving and a group-serving bias. On the other hand, many of the Hebei teachers may have also employed a group-serving bias, but there is not a comparable consistent attribution pattern for what westerners may consider more conceptually `distant' entities.

In China, the State has been identified as an in-group, albeit one with weaker ties to the individual than family or clan (Triandis, Bontempo, Villareal, Asai and Lucca, 1988). The responses for the Government and Department of Education may reflect the fact that schooling is generally controlled by the State, and is, in relative terms, well-resourced (Lai, 1995). However, this is purely speculative, and obtaining a measure of these perceived distances should be part of the design of any future investigation.

Pearson correlations and descriptives

Pearson correlations and descriptives for the responsibility items and the general stress and locus of control measures for both samples are shown in Table 1.

The potential minimum score for the Locus of Control of Behaviour Scale

(LCB) was 0, and the maximum, 70. As a group, the Hebei teachers clearly had a more external orientation than the NSW group. However, whilst, for the Hebei teachers, there was only one weak correlation of locus of control with superiors, for the NSW teachers, locus of control correlated weakly with all other responsibility items, except

Department of Education.

The strongest inter-correlations for both groups were for items related to external entities, with a further "cluster" of moderate intercorrelations related to entities closer to the school. For the Hebei sample, general stress correlated only mildly with responsibility items related to the Department of Education and the Government. For the NSW teachers, correlations with general stress were also mild, but were significant for each of the responsibility items. For the NSW teachers, the attribution of responsibility for occupational stress may have been more intimately related to general stress perceived, than for the Hebei teachers.

Factor analysis of responsibility items

Principal axis factoring was separately carried out on the responsibility items of each group of teachers and loadings are shown in Tables 3 and 4. For the Hebei sample, 3 factors, named Hebei external, Hebei school-close, and Hebei school-distant, were extracted, accounting for 36% and 16% and 7% of the variance respectively. For the NSW sample, 3 factors, named NSW school-close, NSW external, and NSW school-distant were extracted, accounting for 28%, 17% and 8% of the variance respectively. There was considered to be sufficient commonality between the two solutions to use the same factor names. However, there are clear differences in the two solutions. The item Society loaded on the Hebei external factor, but on the NSW school-distant factor. However, for both samples the factors were correlated, perhaps reflecting the different meanings and conceptualisation possible for such a nebulous entity as society. Similarly, whereas the NSW school-close factor included school organisation and superiors, with yourself and peers, the Hebei school-close factor consisted of the latter two and students. This could reflect a more pronounced difference in status, between teachers and their superiors in Hebei, compared to NSW.

Whilst inconclusive, this analysis supports the view that both sets of teachers have attribution schemas which incorporate psychological distancing, and that there are similarities and differences in the schemas' composition.

Regression analyses of general stress measure with responsibility items and locus of control measure

Stepwise regression analyses of the general stress measure as dependent variable and the responsibility items and locus of control were carried out for both samples, and results are shown in Table 4. The purpose of

this analysis was twofold. First, to probe the extent to which these teachers' general occupational stress could be predicted by the independent variables, and second, to make comparisons between the two groups.

It is notable that, for the Hebei teachers, only 8% of the variance is accounted for by the regression model, whilst, for the NSW teachers, a total of 31% is accounted for. One interpretation is that attribution of responsibility, and locus of control play a considerably greater part in NSW teachers' perceptions of their general stress, than in the Hebei teachers' perceptions. This is further evidence, albeit inconclusive, that the self-serving bias was not employed as extensively by the Hebei teachers. Notwithstanding this, Department of Education was the best predictor for both groups. Paradoxically, then, although Figure 1 shows that in terms of responses in the two extremes to the responsibility Department of Education is in fact lower than for other categories, it is a better predictor of general stress than those categories. This may be a function of the group-serving bias and its associated self-effacement.

Locus of control is the next best predictor for the NSW group, but is not in the Hebei model. This is particularly of interest, as the Hebei mean for locus of control is greater than the NSW mean by more than one standard deviation. That is, according to the LCB measure, the Hebei teachers, as a group, were considerably more external in orientation.

Conclusions

Although no firm conclusions may be drawn from the results reported here, they are consistent with some cultural differences and similarities between these groups of teachers. The attribution pattern for both groups can be interpreted in terms of a group-serving bias. However, whereas the pattern for the NSW teachers may be interpreted in terms of both self-serving and group-serving biases, that of the Hebei teachers does not appear to be associated with a self-serving bias to any great extent. This is consistent with earlier work (Kashima and Triandis, 1986). Although it may not be concluded from this study, it is possible that members of collectivist societies do, indeed, employ a self-serving bias, in as much as interdependence with an in-group means that group-serving is to some degree self-serving. Further, it may, in fact, be self-serving to be self-effacing in a society where interpersonal harmony is a requirement of group membership, and group members rate highly such behaviours (Bond et al, 1984; Forsyth, Berger and Mitchell, 1981; Forsyth and Mitchell, 1979; Lai, 1995). Future research in this area should address this issue.

Arguably, cognitive appraisal is currently considered the key element in explaining different responses of individuals to stressors (Breznitz and Goldberger, 1993). Although no firm conclusions can be drawn from this preliminary study, one may reasonably conclude that culture is

likely to play an important part in the cognitive appraisal process, and is worthy of future research.

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