

LOCUS OF CONTROL AND WELL-BEING AT WORK: HOW GENERALIZABLE ARE WESTERN FINDINGS?

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Managers from 24 geopolitical entities provided data on work locus of control, job satisfaction, psychological strain, physical strain, and individualism/collectivism. The hypothesis that the salutary effects of perceived control on well-being are universal was supported because relations of work locus of control with well-being at work were similar in almost all the sampled areas. Furthermore, the individualism/collectivism level of each sample did not moderate the magnitude of correlations of work locus of control with measures of well-being. Findings indicate that control beliefs contribute to well-being universally, but we suggest that how control is manifested can still differ.

Many authors have noted that cross-national management research is now needed more than ever because it can no longer be assumed that American concepts and theories transcend culture and national boundaries (e.g., Boyacigiller & Adler, 1991; Peng, Peterson, & Shyi, 1991; Trompenaars & Hampden-Turner, 1998). For instance, the issue of employee control, both as a perception and as a generalized belief (locus of control), has played a primary role in theories of organizational behavior and stress (Ganster & Fusilier, 1989) in the U.S. and other Western management literature. In the present study, we examined whether control beliefs operate in a similar way universally by providing results from 24 geopolitical entities¹ regarding how locus of control in the workplace relates to job satisfaction and well-being.

THEORY AND HYPOTHESES

Locus of Control as a Universal Component of Well-Being

Prominent theories have linked perceptions of control in various forms to employee well-being (broadly conceptualized to include positive attitudes and absence of physical and psychological symptoms) as well as to other variables. For example, in their job characteristics model, Hackman and Oldham (1976) considered autonomy to be a major cause of job satisfaction and positive adjustment to work. In Karasek's (1979) demands-control stress model, the hypothesis is that control at work buffers the impact of job stressors on well-being. Spector's (1986) meta-analysis showed that perceived autonomy and participation at work were related to job satisfaction and other measures of well-being. In their review of the workplace control literature, Ganster and Fusilier (1989) concluded that control was a vital element of well-being. In addition, management approaches that empower employees by giving them more control have been advocated as both effective and humane (Block, 1993; Lawler, Mohrman, & Ledford, 1995).

Research has shown the importance of not only perceptions of control in the immediate work environment, but also of a person's more general beliefs about control. Locus of control, perhaps the most studied control-related variable, reflects a person's belief in personal control in life (internality) rather than in control by outside forces or individuals (externality). It has been noted that internal control

beliefs are an important component of emotional adjustment and ability to handle stress in general life (e.g., Kobasa, Maddi, & Kahn, 1982) and at work (Spector, 1982). Locus of control in the workplace in particular (that is, belief that one has control at work) has likewise been linked to employee well-being (e.g., Spector, 1988; Spector & O'Connell, 1994). In sum, research supports the notion that internality is associated with positive well-being both on and off the job. Our first hypothesis states the universality of such a relation:

Hypothesis 1. Work locus of control will be correlated with measures of well-being (internality associated with positive well-being) universally across nations and territories.

Locus of Control as an Exclusively Western Phenomenon

There is reason to expect cross-national differences in how work locus of control might relate to well-being (Pervin, 1999). Individualism/collectivism has been studied extensively in relation to culture. As Triandis (1995) explained, individualism is a tendency for people to view themselves as independent entities who are motivated primarily by their own goals and preferences. It has been described as a reflection of the independent self (Markus & Kitayama, 1998) and an expression of the need for self-sufficiency (Kagitçibasi, 1994). Collectivism is a tendency for individuals to view themselves as parts of one or more social groups whose motivation is based mainly on group goals and norms. It has been described as a reflection of the interdependent self (Markus & Kitayama, 1998) and an expression of the need for relatedness (Kagitçibasi, 1994). Nations considered to be individualistic are to be found primarily in the Anglo-European world, whereas nations considered collectivistic come from Asia and Latin America, as well as other regions of the world.

Gudykunst (1998) noted that members of individualistic cultures are taught to value independence and achievement through their own actions. They view themselves and others as having direct control over various aspects of life. Members of collectivist cultures are taught to value harmony and solidarity with others (Markus & Kitayama, 1991). Because they accept subordination of individual to group interests, they view the group as having legitimate control over their actions. These differences can be seen clearly in a study by Lundberg and Peterson (1994), who found that Japanese considered work autonomy to be less important than did Americans. Smith, Trompenaars, and Du-

¹ Most of the entities were nation-states. However, Hong Kong and Taiwan were included, as well as the People's Republic of China (PRC).

gan (1995) also found that, at the country level, individualism was associated with a belief in individual autonomy.

Weisz, Rothbaum, and Blackburn (1984) compared views of control in the individualist United States and collectivist Japan. They noted that in the United States, the emphasis is on primary control, in which individuals attempt direct control over situations through independent action. In Japan, there is more emphasis on secondary control, whereby individuals experience feelings of control indirectly, either by aligning themselves with powerful others or by modifying interpretations of a situation, thereby controlling its effects (that is, by regulating emotional reactions). Our United States-developed locus of control scales mainly reflect beliefs about primary control, neglecting the secondary control that may be more important in other nations.

There have been several studies of general locus of control in the cross-cultural domain, but findings have been somewhat inconsistent (Hui, 1982; Smith, Trompenaars, & Dugan, 1995). Studies have shown that, in general, Confucian Asians (such as the Chinese and Japanese) are more external in their locus of control than are the more individualistic Americans and other Western nationals (Hamid, 1994; Hui, 1982). Arguments have been advanced that the people of the former Soviet block nations in Eastern Europe should also be more external in their locus of control than the people of Western nations owing to the prior state-dominated system that limited individual control over work and other life domains (Frese, Kring, Soose, & Zempel, 1996; Tobacyk & Tobacyk, 1992).

From a theoretical perspective, for several reasons we would predict that the relation between locus of control and well-being will be smaller in collectivist than in individualist countries. First, collectivists are socialized to subordinate their own personal control, and thus a collectivist will develop secondary, rather than primary, control strategies to deal with his or her environment. Second, in collectivist countries, people expect to have limited direct and immediate personal control, and so failure to have it will be less distressing. In the United States and other individualist nations, it might be argued that having an external locus of control is actually an indicator of poor adjustment (Phares, 1976).

Third, it has been maintained that the idea of behavior being driven by stable dispositions is very much rooted in individualism, whereas behavior in collectivist societies is more context-specific and driven by the environment (Church & Lonner,

1998; Markus & Kitayama, 1998). Thus, we would expect an individual trait such as locus of control to be predictive of attitudes and behavior more consistently in individualist countries. Finally, in individualist countries, people are encouraged to autonomously regulate their distress (Friedlmeier & Trommsdorff, 1999) rather than to seek consolation from others, thereby making personal control a more important element of well-being. In contrast, collectivist emotional regulation is more dependent on others.

In summary, a belief in personal control should be more efficacious in individualist than in collectivist countries. This leads to our second hypothesis:

Hypothesis 2. Individualism/collectivism will moderate the relation between locus of control and well-being in such a way that this relationship will be stronger in individualist countries.

The Current Study

In this report, we describe results of a study conducted in 24 geopolitical entities spread across five continents. The aim was to choose locations so that a wide range of cultures and individualism/collectivism would be represented. We chose several Anglo and Western European nations to represent the individualist category and both Asian and Eastern European entities to represent collectivism. Since our purpose was to compare employees' locus of control across geopolitical entities, we attempted to hold the nature of the jobs constant as much as possible and to make our samples as representative as possible. We chose the manager role as one that exists across nations and tried to select participants who were representative of this occupation in each country. We collected demographic information on age, education, gender, marital status, and organizational tenure to serve as controls. Furthermore, we included a measure of individualism in our survey, to provide an up-to-date measure reflecting the values of the managers themselves. This measure provided a more accurate indication of individualism for each sampled entity than archival measures that might not reflect possible change over place and time would have provided. Finally, we decided to assess locus of control specifically in the workplace. Beliefs about control can vary across domains of life (Phares, 1976). However, since our interest was in the relation of work-related factors to well-being, it seemed most appropriate to assess beliefs about workplace control rather than control in general.

METHODS

Samples and Participants

The results reported here are part of the Collaborative International Study of Managerial Stress (CISMS), established in 1996 by the two project directors (C. L. Cooper and P. E. Spector). Following the approach of Peterson and Smith and their colleagues (1995), the project directors compiled a list of geopolitical entities that would represent a broad range of cultures. For each entity, researchers were invited to participate. Each of these invitees was either personally acquainted with, or was referred by people known to, the project directors. Data were available for 24 samples (see Table 1, below), but data on individualism/collectivism were not collected in Australia, making it necessary to leave out this sample for the test of Hypothesis 2. (As was noted, we use the term "geopolitical entities" because we have three Chinese samples, from the PRC, Hong Kong, and Taiwan.) In our 24 samples, five of the eight "country clusters" designated by Ronen and Shenkar (1985) were represented (Anglo, Far Eastern, Germanic, Latin, European, and Nordic), as well as all four of the areas those authors labeled "independents" (Brazil, India, Israel, and Japan). Additional details on this project can be obtained from the authors or at the following Web site: <http://chuma.cas.usf.edu/~spector>.

The original plan was to keep participants' job type constant (manager) and to collect data using methods that would achieve reasonable representativeness. Although we achieved the first objective in every case, the second was more difficult. In five samples, data were collected in only one or two organizations (the PRC, Germany, India, Romania, and the United Kingdom), and in Sweden eight organizations were represented. In the remaining samples, procedures were used to cover a wide range of organizations. This was accomplished in some instances by sampling members of management organizations such as the chamber of commerce (in Canada, for instance), or an institute of management (in New Zealand, for one). In other cases, we conducted mail surveys using a management directory as a sampling frame (Hong Kong was one such case), or by mailing questionnaires to a random sample of managers in businesses and offices in a city (in the United States). Multiple methods and locations were used in some samples to expand representativeness (in Hong Kong, Spain, and the United States, among others).

Participants were 5,185 managers from 24 geopolitical entities who completed our questionnaire voluntarily and for no compensation. Sample sizes varied considerably, from 61 for France to 515 for

Japan. The samples varied considerably on the demographic variables of gender, marital status, education level, age, and organizational tenure (a summary of sample characteristics is available from the senior author). Although we report the simpler statistics here, we also ran hypothesis tests with these demographic variables as controls, to rule out the possibility that our findings could be explained by demographic differences between samples.

Measures and Procedures

Our questionnaire included the Occupational Stress Indicator-2 (OSI2), which contains measures of well-being (Cooper & Williams, 1996); the Work Locus of Control Scale (WLCS; Spector, 1988); the Values Survey Module 1994 (VSM94; Hofstede, 1994; not used in Australia); and additional demographic questions.

The WLCS is a 16-item scale that assesses employee beliefs about their control at work in general. Half the items are written to indicate an external locus of control (for example, "Getting the job you want is mostly a matter of luck") and half to indicate an internal locus (for example, "Promotions are given to employees who perform well on the job"). For all items, the six response choices range from "strongly disagree" to "strongly agree." High scores represent externality and low scores, internality. Spector (1988) reported an internal consistency (coefficient alpha) of .75 to .85 in six U.S. samples. The scale has been shown to relate as expected to job satisfaction, control at work, role stress, and perceptions of supervisor style, and it has been shown to correlate from .49 to .57 with Rotter's (1966) general locus of control scale (Spector, 1988). It has also been found to be related to both job performance (Blau, 1993) and counterproductive behavior at work (Fox & Spector, 1999).

The OSI2 is a 90-item short form of the Occupational Stress Indicator (OSI; Cooper, Sloan, & Williams, 1988). Most available reliability and validity data concern the longer version (e.g., Robertson, Cooper, & Williams, 1990). Job satisfaction was assessed with 12 items concerning a respondent's organization and his or her work itself. Items had six response choices ranging from "very much dissatisfaction" to "very much satisfaction." A sample item is "Communication and the way information flows around the organization." Psychological well-being was assessed with the 12-item mental strain scale that asks about psychological reactions at work. All items had six response choices, but the choices varied across items. For example, the item "Are there times at work when you feel so exasperated that you sit back and think to yourself that 'life

TABLE 1
Results of LISREL 8 Variance-Covariance Matrix Equality Tests for Scale Items^a

Sample	χ^2	Work Locus of Control				Job Satisfaction				Mental Well-Being				Physical Well-Being													
		GFI and PSI	NFI NNFI	CFI and IFI	χ^2	GFI and PSI	NFI NNFI	CFI and IFI	χ^2	GFI and PSI	NFI NNFI	CFI and IFI	χ^2	GFI and PSI	NFI NNFI	CFI and IFI	χ^2										
Australia	420 ^{*b}	0.90	0.89	0.86	0.92	0.96	0.98	0.98	0.99	118 ^{*c}	0.96	0.96	0.98	0.99	0.97	0.96	0.97	0.97	0.96	0.97	0.97	0.96	0.94	0.94	0.94	0.95	
People's Republic of China	552 [*]	0.85	0.83	0.75	0.86	0.87	0.93	0.91	0.95	386 [*]	0.86	0.84	0.77	0.86	0.86	0.84	0.77	0.86	0.86	0.84	0.77	0.86	0.94	0.94	0.94	0.94	0.95
Hong Kong	396 [*]	0.90	0.89	0.86	0.92	0.91	0.96	0.95	0.97	146 [*]	0.94	0.95	0.96	0.98	0.94	0.95	0.96	0.98	0.94	0.95	0.96	0.98	0.97	0.97	0.99	0.99	0.99
Japan	634 [*]	0.93	0.84	0.76	0.87	0.89	0.93	0.89	0.94	232 [*]	0.97	0.94	0.93	0.96	0.97	0.94	0.93	0.96	0.97	0.94	0.93	0.96	0.98	0.96	0.97	0.98	0.98
Poland	478 [*]	0.90	0.87	0.83	0.90	0.92	0.96	0.96	0.97	216 [*]	0.93	0.93	0.92	0.95	0.93	0.93	0.92	0.95	0.93	0.93	0.92	0.95	0.97	0.97	0.97	0.98	1.00
Slovenia	638 [*]	0.94	0.86	0.79	0.88	0.93	0.94	0.92	0.95	253 [*]	0.96	0.96	0.93	0.91	0.96	0.93	0.91	0.95	0.96	0.93	0.91	0.95	0.99	0.98	0.98	0.99	0.99
Taiwan	902 [*]	0.71	0.74	0.57	0.76	0.92	0.96	0.95	0.97	200 [*]	0.95	0.93	0.92	0.95	0.95	0.93	0.92	0.95	0.95	0.93	0.92	0.95	0.98	0.98	0.98	0.99	0.98
Ukraine	523 [*]	0.87	0.84	0.77	0.87	0.87	0.93	0.90	0.94	401 [*]	0.87	0.85	0.78	0.87	0.87	0.85	0.78	0.87	0.87	0.85	0.78	0.87	0.97	0.97	0.98	0.98	0.99

^a GFI is the goodness-of-fit index; PSI is the parsimonious fit index; NFI is the normed fit index; NNFI is the nonnormed fit index; CFI is the comparative fit index; IFI is the incremental fit index. Values for GFI and PSI were identical, and values for CFI and IFI were identical. New Zealand is compared with eight other samples.

^b $df = 136$.

^c $df = 78$.

^d $df = 21$.

* $p < .05$

is all really just too much effort?" had choices ranging from "never" to "often." Physical well-being was assessed with the 6-item physical strain scale that asks about somatic symptoms, such as shortness of breath and muscle trembling. The six response choices ranged from "never" to "very frequently." For all three scales, high scores represented high levels of well-being—that is, high satisfaction and low psychological and physical symptoms. Robertson et al. (1990) reported coefficient alpha reliabilities for the original OSI of .85, .88, and .78, respectively. Validation evidence for the most recent version of the OSI was summarized in Williams and Cooper (1998).

The Values Survey Module assesses five cultural values, including individualism/collectivism. It contains four items for which respondents indicate importance, using five response choices ranging from "of very little or no importance" to "of utmost importance." The items ask about having sufficient time for a personal life, having good working conditions, having job security, and having an element of variety and adventure in one's job. High scores represent an individualist orientation, and low scores, a collectivist orientation. We computed scores by differentially weighting the items and adding a constant, resulting in means for countries that typically range from about 0 to the low 100s. Hofstede (1994) noted that the VSM94 is only appropriate at the aggregate or country level of analysis rather than at the individual level of analysis.

The CISMS project directors put together the English version of the questionnaire. In 8 samples (Australia, Canada, India, New Zealand, South Africa, Sweden, the United Kingdom, and the United States) the questionnaire were administered in English. In 16 samples, the questionnaires were translated into the native language of the area. Each of the non-English versions was translated into the appropriate language and then independently back-translated to assure language equivalence. Where translation equivalence was not maintained, portions were retranslated and then retested until the meanings of the two versions were as close as possible.

Measurement Transportability

These scales maintained adequate internal consistency reliabilities as assessed with the widely accepted .70 coefficient alpha standard (Nunnally, 1978) in 91 out of 96 cases (coefficient alphas are available from the first author). We compared the U.S. alpha (as a standard) with all others, using an *F*-test ($1 - \text{smaller alpha} / 1 - \text{larger alpha}$, with $n - 1$ degrees of freedom associated with each alpha)

provided by van de Vijver and Leung (1997: 60). In 48 of 114 comparisons, the U.S. alpha was significantly higher than that for the other sample, and 38 of these differences involved translations of the scales. These results should not be surprising, as often internal consistency declines with translation (e.g., DeFrank, Ivancevich, & Schweiger, 1988; Iwata, Roberts, & Kawakami, 1995).

We also tested for scale transportability by conducting "pairwise" multisample variance-covariance equality tests on the items for each individual scale using LISREL 8 (Jöreskog & Sörbom, 1992). This comparison of the equality of interitem covariances (for each of the four scales separately) across samples is the most stringent test of factor equality that is frequently used for comparing scales across samples (e.g., Riordan & Vandenberg, 1994; Schaubroeck & Green, 1989). We limited the analyses to only those samples that had at least 200 participants with complete data on each scale, since this method is designed for large samples. Since the scales were developed in English-speaking Anglo nations (the United Kingdom and United States), we chose our largest sample that fit that category—namely, New Zealand—as a standard, and we then compared it to the samples for Australia, China, Hong Kong, Japan, Poland, Slovenia, Taiwan, and Ukraine. Our view was that this wide range of samples should provide a clear indication of transportability. Table 1 shows that for six fit indexes, the three well-being measures met the widely accepted .90 or higher standard in 87 percent of cases across the included countries. Fit was almost as good for the WLCS, with a third of the statistics .90 or higher, and almost three-fourths at .85 or higher, across all the fit indexes combined. The only clearly poor fit was for Taiwan. The table also shows the chi-square values for each analysis, all but four of which were significant. However, it is generally recognized that chi-square is overly sensitive to sample size, so we placed more emphasis on the fit indexes in interpretation.

RESULTS

Test of Hypothesis 1

Correlations were computed between locus of control and the three well-being indicators for each of our 24 samples as a test of Hypothesis 1. Table 2 shows these correlations. In addition, using a *z*-test for independent correlations, we took the correlation from the U.S. sample as a standard and compared it with the corresponding correlation for each other geopolitical entity to see if there were signif-

TABLE 2
Within-Sample Correlations between Work Locus of Control and Measures of Well-Being

Sample	n	Work Locus of Control- Job Satisfaction	Work Locus of Control- Psychological Strain	Work Locus of Control- Physical Strain	Job Satisfaction- Psychological Strain	Job Satisfaction- Physical Strain	Psychological Strain- Physical Strain
Australia	289	-.41*	-.37*	-.26*	.31*	.27*	.55*
Belgium	185	-.23*	-.30*	-.09 ^a	.05 ^a	.08	.39* ^a
Brazil	117	-.39*	-.49*	-.46*	.46*	.43*	.54*
Bulgaria	165	-.27*	-.03 ^a	-.22*	.24*	.25*	-.04 ^a
Canada	89	-.29*	-.34*	-.29*	.40*	.26*	.58*
People's Republic of China	201	-.35*	-.16* ^a	.09 ^a	.27*	-.02 ^a	.30* ^a
Estonia	163	-.24*	-.28*	-.15 ^a	.39*	.22*	.47*
France	61	-.24	-.51*	-.12	.26*	.13	.35*
Germany	85	-.42*	-.47*	-.26*	.48*	.30*	.58*
Hong Kong	272	-.43*	-.34*	-.11 ^a	.45*	.24*	.40* ^a
India	159	-.38*	-.28*	-.20*	.38*	.27*	.51*
Israel	99	-.30*	-.22*	-.22*	.34*	.41*	.55*
Japan	515	-.29*	-.35*	-.16* ^a	.41*	.33*	.52*
New Zealand	492	-.31*	-.32*	-.15* ^a	.29*	.24*	.53*
Poland	269	-.45*	-.47*	-.35*	.51*	.26*	.60*
Romania	135	-.35*	-.15 ^a	-.23*	.20* ^a	.13	.37* ^a
Slovenia	488	-.38*	-.26*	-.17* ^a	.32*	.21*	.54*
South Africa	129	-.50*	-.31*	-.16	.36*	.20*	.43*
Spain	180	-.42*	-.31*	-.19*	.40*	.24*	.48*
Sweden	210	-.30*	-.45*	-.14* ^a	.36*	.30*	.42* ^a
Taiwan	343	-.27*	-.21*	-.17* ^a	.30*	.25*	.59*
United Kingdom	201	-.44*	-.06 ^a	.09 ^a	.21* ^a	-.03 ^a	.45*
Ukraine	219	-.21*	-.47*	-.31*	.24*	.15*	.56*
United States	119	-.32*	-.40*	-.39*	.43*	.25*	.59*

^a Significantly different from the U.S. sample at $p < .05$.

* $p < .05$

icant differences (see Table 2). Since there were large differences in sample sizes, care should be taken in interpreting comparative significance levels. Finally, we ran multiple regression analyses of each well-being variable on work locus of control and the five demographic variables to see if results were affected. In no case was significance lost for work locus of control, showing that demographic differences among samples hardly account for our results.

The most consistent correlations were between locus of control and job satisfaction. All the samples had a significant, negative correlation on these variables, except France, which had a small sample size but a correlation close in magnitude to most other samples'. Furthermore, no sample's correlation was significantly different from that for the United States. Relations between locus of control and psychological well-being had a little more dispersion. Three samples had nonsignificant correlations, and four had correlations significantly smaller than that for the United States. For physical strain, seven correlations were nonsignificant, and ten were significantly lower than that for the United States.

Test of Hypothesis 2: Individualism/Collectivism as a Moderator of the Locus of Control-Well-Being Relationship

To test Hypothesis 2, stating that individualism/collectivism would serve as a moderator, we checked to see if the individualism/collectivism value found for each sample related to the magnitude of the correlation between work locus of control and each well-being measure for that sample. We did this by computing the correlations between the mean individualism/collectivism scores and the corresponding magnitude of correlation between work locus of control and each measure of well-being. That is, we separately matched each sample's mean for individualism/collectivism with the correlation values in columns 2, 3, and 4 of Table 2. The two statistics are both summaries of country samples, one a correlation coefficient and the other a mean. Correlating such summary statistics is a practice often seen in meta-analysis; for example, Carsten and Spector (1997) computed correlations between correlation coefficients from studies and the unemployment rates at the times the studies were conducted.

The correlations were $-.07$, $-.25$, and $.12$, for job satisfaction, psychological well-being, and physical well-being, respectively, and each was nonsignificant, thus failing to support the moderator hypothesis. An inspection of the results showed that

the United Kingdom correlation of work locus of control with psychological strain was an outlier and far lower than would be expected ($r = -.06$) from values for the other five Anglo countries, which ranged from $-.31$ to $-.40$. When the United Kingdom was removed, the resulting correlation of $-.40$ just missed statistical significance ($p < .07$), and was in the expected direction, with the stronger relations between work locus of control and psychological strain being associated with higher individualism.

DISCUSSION

Is the Relationship between Work Locus of Control and Well-Being Universal?

As noted, we tested Hypothesis 1 by comparing the correlations of work locus of control and well-being for our 24 samples. We examined whether or not these correlations were statistically significant and whether they differed significantly from the U.S. correlations used as the standard. For job satisfaction, our results support the first hypothesis. Correlations ranged from $-.50$ to $-.23$, with all but the one for France (which had a very small sample) being statistically significant. Relations with psychological well-being were a little less consistent, but in most cases were supportive of Hypothesis 1. For three samples, correlations were both nonsignificant and significantly lower than the U.S. one (Bulgaria, Romania, and the United Kingdom). However, it should be noted that, owing to cultural similarities, the United Kingdom would be expected not to differ from the United States.

Relations with physical well-being, however, failed to show consistent support for universality. Seven samples had nonsignificant values (Belgium, the PRC, Estonia, France, Hong Kong, South Africa, and the United Kingdom), and ten had values significantly lower than the U.S. value. Although France was not significantly lower than the United States, its correlation was only $-.12$ and, as noted, its sample was very small. Thus, in half the cases, the relatively strong relation seen in the United States ($-.39$) was not replicated. Therefore, we can conclude that, unlike job satisfaction, physical well-being is not universally associated with beliefs in low control at work.

Individualism/Collectivism as a Moderator of Work Locus of Control and Well-Being

Our second hypothesis was that individualism/collectivism would moderate relations between work locus of control and well-being in such a way

that they would be stronger in individualist nations. We tested this hypothesis by combining the intracultural analysis (Leung & Bond, 1989), involving computing correlations separately for each geopolitical entity sample, with an intercultural analysis involving relating the magnitude of those correlations with each sample's mean individualism/collectivism score. We failed to find support for this prediction, as individualism/collectivism did not significantly moderate relations between work locus of control and well-being. Even when we removed the United Kingdom from our analysis because its results were an outlier among Anglo nations, at best we found only marginal significance for one well-being measure. In light of our support for Hypothesis 1 with job satisfaction and psychological well-being, such a relation would seem doubtful, but it is surprising that we didn't find it for physical well-being, where relations were not universal.

There are at least three methodological explanations, which are not necessarily mutually exclusive, for the failure to support our second hypothesis. First, at the intercultural level, our number of samples (23 for individualism/collectivism) was quite small, thus reducing the statistical power to detect significant effects at traditional probability levels of less than .05. Second, the Hofstede (1994) VSM94 four-item individualism/collectivism measure is global and unidimensional. It assesses individualism/collectivism on a single continuum, but it has been recognized that individualism/collectivism is complex and multidimensional (Ho & Chiu, 1994; Triandis, 1995). It may be only certain aspects of individualism/collectivism that moderate, rather than the global dimension assessed by the VSM94. Furthermore, using these same data we have found that the internal consistency of the VSM94 individualism/collectivism scale is poor in many samples (Spector et al., 2001). Perhaps a more psychometrically sound scale would have yielded better results. However, it should be noted that the Hofstede scale has been used extensively, and much of the cross-national literature is based on its findings. Furthermore, Hofstede (1984) reported on 16 of our geopolitical entities in his original work on cultural values using an earlier version of the Values Survey Module. A rank-order correlation comparing our ranks with his was .71, showing strong agreement between his order and ours (see Spector et al., 2001).

Third, although we attempted to make our samples as representative as possible, in a few cases data came from just a few organizations. Thus, it is possible that results in some samples deviated somewhat from what might have been found with

more organizations. However, had this been a serious issue, we would have expected our first hypothesis to have been unsupported as well, and we likely would not have found such good agreement with Hofstede on individualism/collectivism.

Study Limitations

Five of our variables were assessed via self-reports, but the crucial variable of geopolitical entity was not. It seems unlikely that monomethod bias or method variance accounted for the consistent relations observed between locus of control and other variables. First, the idea that all variables in a questionnaire are related to a degree owing to the method itself has found very little support (Spector, 1987; Spector & Brannick, 1995). In fact, an inspection of Table 1 shows that quite a few of our correlations were nonsignificant, a finding that provides an argument against pervasive method variance. It is still possible that certain variables shared biases and that these were widespread cross-nationally. The best recognized biases are "response sets" and "social desirability." Response sets have been noted as varying considerably across countries (Triandis, 1994; van de Vijver & Leung, 1997), even within collectivists, which would decrease the likelihood of similar findings across our samples. Social desirability seems a highly unlikely explanation since the WLCS is unrelated to it (Spector, 1988), and little relation has been found between social desirability and job satisfaction (Spector, 1987; Spector & Brannick, 1995).

Conclusions and Management Implications

We found that the relation of work locus of control to job satisfaction was consistent across all 24 samples in our study, despite a wide range of cultural differences among them. We found consistency in almost all samples for the relation between work locus of control and psychological well-being. However, the U.S. findings of internality being associated with reduced physical well-being did not hold across our samples. In half of our samples, the U.S. correlation was significantly higher than the comparison. Thus, we can conclude that the relation of work locus of control may be universal in terms of job satisfaction and psychological well-being, but it does not generalize as broadly with physical well-being.

What is intriguing about the findings regarding physical well-being is that they do not follow an easily interpretable pattern. The geopolitical entities whose samples either differed from the United States or failed to be significantly different from

zero included members of country clusters as diverse as the Anglo cluster (New Zealand, South Africa, and the United Kingdom), Western Europe (Belgium, France, and Sweden), Eastern Europe (Estonia and Slovenia), and Asia (the PRC, Hong Kong, Japan, and Taiwan). Only the Asian samples were consistent, as there were other Anglo, Western Europe, and Eastern Europe samples that did not differ from the United States. Continued research is needed to determine why the physical well-being results were so unpredictably variable. The explanation of such variability does not seem to lie with individualism/collectivism, at least in the global manner assessed by the Hofstede scale employed here. Work-related legislation that favors humane working conditions, good diets, availability of health care, and a plethora of economic and social factors may account for differences in physical well-being across nations. This issue is particularly important since it is physical well-being that likely relates most closely with physical health and illness.

Although our results hint that stimulating beliefs of control among managers is a healthy organizational strategy across countries, our data do not pinpoint the specific forms of control that may have the best adaptive effects in each country. That is, despite similarities in relations, it is likely that the ways in which people translate their control beliefs into action varies across nations. As Triandis (1994) noted, etic constructs have emic aspects, as individual cultures find their own ways of expressing them. Thus, the manifestation of control can differ across societies, even though individuals might score the same. In the United States, a person who is internal expects to have personal, direct control over a job, but in a collectivist society, a person who is internal may expect to have indirect control via the cultivation of personal relationships with others. Certainly individuals in powerful positions in collectivist nations such as Japan believe in their ability to exert control, but they likely see that control as coming from their networks of relationships with others. Their counterparts in the United States more likely see themselves as having personal power less linked to others. Given a control scale, each might tend to interpret the items somewhat differently, but in a way consistent with his or her own cultural context.

Some aspects of control might well be universal in their effects. It seems plausible that control beliefs play an adaptive role in a person's interaction with his or her environment regardless of culture, although the specific nature of those beliefs is colored by the cultural context. It should also be kept in mind that although our theories suggest that

control beliefs and perceptions are a causal agent in producing well-being, the opposite is also possible. It may well be that individuals who are well adapted to their culture have experienced certain successes that enhance beliefs about control. These successes contribute to positive attitudes and well-being, so that control beliefs are the effect rather than the cause. Again, this phenomenon might occur universally across cultures, although the precise contexts might vary.

As suggested by the popularity of management approaches emphasizing autonomy and empowerment, beliefs of control are a vital element in the management of organizations in the West, and our results suggest that they can be just as important elsewhere. Whereas most prior research on control beliefs was limited to reporting mean country differences in general locus of control, our study was designed to test theoretical hypotheses concerning universality of relations, not just means, specifically in the workplace. We have shown that, for job satisfaction and psychological well-being, work locus of control relations generalize. However, it would be premature to assume that Anglo-European management approaches that promote individual autonomy and empowerment will work universally to enhance well-being. Beliefs about control and, presumably, perceptions of control at work must be culturally appropriate for the context in which people live, and exploring such context differences should be the next direction for international control research.

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