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Teachers' Collective Efficacy, Job Satisfaction, and Job Stress in Cross-Cultural Context

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This study examines how teachers' collective efficacy (TCE), job stress, and the cultural dimension of collectivism are associated with job satisfaction for 500 teachers from Canada, Korea (South Korea or Republic of Korea), and the United States. Multigroup path analysis revealed that TCE predicted job satisfaction across settings. Job stress was negatively related to job satisfaction for North American teachers (i.e., teachers from Canada and the United States), whereas the cultural dimension of collectivism was significantly related to job satisfaction for the Korean, but not for North American teachers. For motivation theorists, the results from this study provide evidence that cultural context influences how motivation beliefs are understood and expressed in diverse settings. For educators, this study underlines the importance of collective motivation as a source of individual job satisfaction.

Keywords: teachers, collective efficacy, cross-cultural, job satisfaction, job stress

TEACHERS WHO ARE SATISFIED WITH THEIR WORK typically display higher levels of motivated behavior and performance as well as lower levels of stress, anxiety, and burnout (e.g., Brouwers & Tomic, 2000; Caprara, Barbaranelli,

Borgogni, & Steca, 2003; Caprara, Barbaranelli, Steca, & Malone, 2006; Green-glass & Burke, 2003). The satisfaction that teachers gain from their work may be experienced individually, but teaching is not practiced in a social or cultural vacuum. Job satisfaction and motivation are influenced by teachers' interactions with colleagues and students, but these two factors may also be influenced by cultural milieu and cultural values (e.g., Huang & Van de Vliert, 2004; Yetim & Yetim, 2006). Increasing attention is being paid to the relationship between cultural values and motivation in school settings; in fact, the influence of culture on motivation has recently been labeled "one of the most important issues in educational psychology today" (Zusho, Pintrich, & Cortina, 2004, p. 142). Although recent studies have revealed that teachers' collective efficacy (TCE) beliefs are associated with job satisfaction and job stress (Caprara et al., 2003; Skaalvik & Skaalvik, 2007), this link has not yet been established in many cultural settings, and previous studies have not examined how teachers' cultural values influence the satisfaction they gain from their work as teachers. The present study examines how TCE, job stress, and level of collectivism are associated with job satisfaction for teachers from Canada, the United States, and Korea (South Korea or Republic of Korea).

Teachers' Collective Efficacy

Psychologist Albert Bandura (1997) asserted that the personal efficacy beliefs people hold play an important role in their functioning. Bandura also recognized that individuals do not work as social isolates, and therefore people form beliefs about the collective capabilities of the group(s) to which they belong. He defined *perceived collective efficacy* as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 477). Bandura contended that, similar to self-efficacy, collective efficacy beliefs affect group performance in diverse fields of functioning such as business, sports, politics, and education.

Researchers in recent years have shown that teachers' self-efficacy, the beliefs teachers hold about their personal capabilities to perform their duties in the classroom, are related to a host of positive factors in the classroom, including reduced stress, student achievement gains, and career longevity (see Woolfolk-Hoy & Davis, 2006). Much less attention has been given to *TCE*, which refers to the beliefs teachers possess in their collective capabilities to influence the lives of their students (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Whereas successful teachers are likely to possess a strong sense of their own capabilities in their classrooms, successful schools are characterized by stakeholders who possess a collective sense in their efficacy to help students develop and learn. Unfortunately, these collective efficacy beliefs have not been adequately studied, prompting one

researcher to label them a “neglected construct” in educational research (Goddard, 2001, p. 467).

Collective efficacy beliefs typically reflect individual teachers’ perceptions of group-level attributes; that is, individual teachers are asked to judge the capabilities of the group or groups to which they belong. Studies have found that TCE is significantly related to student achievement and academic climate, even after controlling for previous student achievement and demographic characteristics such as socioeconomic status (e.g., Bandura, 1993; Klassen et al., 2008). Other recent studies have found links between TCE and professional commitment and teachers’ sense of community (Ciani, Summers, & Easter, 2008; Ross & Gray, 2006; Ware & Kitsantas, 2007). The collective efficacy beliefs of teachers are likely nourished by sources similar to those theorized by Bandura (1997) to influence personal efficacy beliefs. A group’s collective confidence is influenced by its past success, observation of other groups’ successes, and encouragement from influential others (Goddard & Goddard, 2001). Schools whose teachers report high collective efficacy beliefs may also be those whose administrators, students, and parents are generally more supportive. When teachers experience challenges and failures that may lower their individual motivation, these setbacks may be ameliorated by beliefs in the school’s collective capacity to effect change. TCE beliefs, then, are related to individual self-efficacy beliefs but are an emergent property that influences how teachers in a school cope with a variety of challenges.

Job Satisfaction and Job Stress

Despite reported high levels of stress and professional attrition in education (Chaplain, 2008; National Education Association, 2007), many teachers find high levels of personal satisfaction from their work. A recent poll suggested that teachers in the United States are more satisfied now than at any point in the previous 20 years (Taylor, 2004). Job satisfaction—perceptions of the fulfillment derived from day-to-day activities—is associated with job commitment, and with higher levels of performance at work (Judge, Thoresen, Bono, & Patton, 2001). In educational contexts, Caprara et al. (2003) labeled job satisfaction a “decisive element” (p. 823) that influences teachers’ attitudes and performance, and he suggested that self-efficacy and collective efficacy both contribute to teachers’ job satisfaction. However, teaching is often a stressful occupation, with demands from administrators, colleagues, students, and parents compounded by work overload, shifting policies, and a lack of recognition for accomplishments (Greenglass & Burke, 2003). Teacher stress—defined as the experience of negative emotions resulting from a teacher’s work (Kyriacou, 2001)—is inversely related to teacher self-efficacy (Betoret, 2006; Skaalvik & Skaalvik, 2007; J. S. Yoon, 2002) and positively related to poor teacher–pupil rapport and low levels of teacher

effectiveness (Abel & Sewell, 1999; Kokkinos, 2007). The outcomes of teachers' work-related stress are serious and may include burnout, depression, poor performance, absenteeism, low levels of job satisfaction, and eventually, the decision to leave the profession (Betoret, 2006; Jepson & Forrest, 2006). Teacher stress is not inevitable in challenging conditions; teachers in schools in which there is good communication among staff and a strong sense of collegiality express lower levels of stress and higher levels of commitment and job satisfaction (Kyriacou, 2001). A growing body of research is illuminating the relation between teachers' motivation and job-related factors, but understanding how teachers' motivation, job satisfaction, and job stress are influenced by context and cultural values has been largely overlooked.

Cultural Values, Motivation, and Work-Related Beliefs

Cultural values—"trans-situational goals . . . that serve as guiding principles in the life of a person or other social entity" (Schwartz, 1994, p. 21)—influence individuals' beliefs about cultural institutions, such as family, school, and work, and affect how people set goals and interpret relationships, expectations, demands, and duties in the workplace. Differences in cultural values emerge between geopolitical groups as individuals within these groups interact with their natural and human environment over time (Kim & Park, 2006) and establish norms and patterns of expected behaviors. Although cultural values differ within countries, and there is much intraindividual variation, they differ mostly across countries; cultural values are linked more strongly to one's nation than to religion, employer organization, or individual personality (Hofstede, Neuijeu, Ohayv, & Sanders, 1990; Inglehart & Baker, 2000).

On the basis of Hofstede's (1980) initial research on cultural values, Triandis (1996) suggested that the cultural values of individualism and collectivism (I/C) are important lenses through which to view psychological functioning, because Western culture and psychology are typically individualistic and focus on individual processes, whereas non-Western cultures are more likely to focus on group-oriented values and views of self. According to I/C theory, people in individualist cultures (e.g., Canada and the United States) tend to emphasize individual goals, define the self as autonomous, and pay attention to the costs and benefits of relationships, whereas people in collectivist settings (e.g., Korea) tend to focus on the goals of the ingroup, define the self as interdependent, and they emphasize the needs of the in-group when determining social behavior (Triandis, 1996). People from East Asian cultural settings (e.g., China, Japan, and Korea) share a Confucian heritage that includes a strong emphasis on family harmony and duty and service to the community (Kim & Park, 2006). Brewer and Chen (2007) have recently suggested that collectivism should be broken into two distinct components,

with *relational* collectivism representing orientation toward personal others, such as family, and *group* collectivism representing orientation to large collectives or unspecified groups.

The sense of relational collectivism—the core feature of many measures of collectivist values—has been shown to be positively linked with achievement for East Asians in school settings (e.g., Chow & Chu, 2007). In contrast with cross-cultural researchers' emphasis on cultural-based motivation differences, Bandura (2000) argued that the I/C dimensions represent a “contentious dualism” (p. 77) that ignores the heterogeneity found in all cultures, but he acknowledged that “culture shapes how efficacy beliefs are developed, the purposes to which they are put, and the sociostructural arrangement under which they are best expressed” (p. 77).

Recent research has shown that cultural values influence work-related variables such as job stress and job satisfaction. Xie, Schaubroeck, and Lam (2008) found that Chinese employees with high levels of *traditionality* (defined as respect and deference for family and community leaders) experienced job stress differently than do their peers with lower levels of traditional values. In a study of Turkish workers, Yetim and Yetim (2006) found that level of collectivism was positively linked with job satisfaction. A study by Huang and Van de Vliert (2004) found that job satisfaction was influenced by job status in individualist settings but not in collectivist settings. In research designed to examine the processes by which cultural values influence job satisfaction, Kirkman and Shapiro (2001) discovered that job satisfaction and job commitment were higher for collectivists because of lower resistance to teamwork and increased willingness to defer to managerial decisions. Last, Hui and Yee (1999) found a strong link between collectivism and job satisfaction in Chinese workers, and they hypothesized that the links between collectivism and job satisfaction are particularly salient in cultures with an emphasis on interdependence rather than on independence. Conversely, Hui and Yee proposed that level of collectivism does not likely lead to higher levels of job satisfaction in cultures that share the cultural value of individualism.

Present Study

The present study responds to the recent call for a culturally attentive educational psychology that “grounds its understandings in the socialization practices of differing environments” (Pajares, 2007, p. 35). More specifically, the study examines how teachers' cultural values and work-related beliefs (i.e., collectivism, collective efficacy, job satisfaction, and job stress) operate in three countries, two of which—Canada and the United States—are considered to be primarily culturally individualist and one—Korea—that is considered to be primarily collectivist (Hofstede & Hofstede, 2005). Our research questions included the following:

1. Do teachers' collective efficacy, job stress, and cultural values influence job satisfaction in three different settings?
2. Are there differences in the relative utility/power of the predictors of job satisfaction across geographical/cultural settings?

Our hypotheses are based on theory and recent empirical work. First, consistent with Bandura's (1997) social cognitive theory and with recent findings by Caprara et al. (2003), we hypothesized that TCE will be positively related to job satisfaction across cultural settings. Second, on the basis of the work of Hui and Yee (1999) and others (e.g., Kirkman & Shapiro, 2001), we predicted that teachers' collectivism beliefs will show a stronger relation with job satisfaction for teachers in Korea than for teachers in Canada and the United States. Last, because teacher stress reflects unpleasant negative emotions such as anger, anxiety, and frustration (e.g., Jepson & Forrest, 2006), and it has been connected with low job satisfaction in some settings (e.g., Betoret, 2006), we predicted that job stress will be inversely related to job satisfaction across cultures.

METHOD

Participants

Participants were 500 teachers from elementary and middle schools in Canada, the United States, and Korea (South Korea or Republic of Korea). We included participants from (a) the United States, in order to situate our results in the teacher motivation research, which has been predominately conducted in the United States; (b) Canada, in order to examine whether the results from the U.S. sample would be replicated in a sample of teachers who share a similar cultural profile but who work in a different education system; and (c) Korea, in order to compare results from the sample of Western teachers with results from teachers from a different geographical region and with a different cultural profile (East Asian, Confucian, collectivist) and a contrasting education system (Hofstede & Hofstede, 2005). We combined teachers from the two levels (i.e., elementary and middle school) in order to maximize sample size in each setting. As a precaution, we used multivariate analysis of variance (MANOVA) to examine whether teachers in these two groups differed on any of the constructs of interest to us. Comparisons showed no significant multivariate effect for differences in age, teaching experience, job satisfaction, collective efficacy, job stress, or collectivism according to school level, $F(6, 461) = 1.44, p = .20, \lambda = .98$, or for the interaction of school level and country, $F(12, 922) = .97, p = .48, \lambda = .98$. Overall, teachers at the elementary- and middle-school levels shared similar profiles in terms of age, teaching experience, and response patterns on the study's variables of interest.

Of the sample of Canadian teachers ($n = 210$), 76% were female, with a mean age of 40.1 years ($SD = 10.7$ years), and taught in elementary schools (70%), middle schools (27%), and combined elementary-middle schools (3%) in 87% urban and 13% suburban schools. Teachers from the United States ($n = 137$) were volunteers from nine southeastern schools in a major metropolitan area, and 90% were female, with a mean age of 38.9 years ($SD = 11.5$ years), and taught in elementary schools (55%), middle schools (43%), and combined elementary-middle schools (2%) in 21% urban and 79% suburban settings. Of the U.S. teachers, 83% were White, 13% were African American, and 4% were other ethnicities. Of the sample of teachers from Korea ($n = 153$), 78% were female, were of Korean heritage (100%), had a mean age of 33.5 years ($SD = 8.2$ years), and taught in more than 40 schools, including elementary schools (18%) and middle schools (82%) in largely urban settings (97%).

Participants in each setting were volunteers who were approached in their schools (the United States) or at conferences or workshops (Canada and Korea), and they were asked to fill out a brief questionnaire on teacher motivation. Response rates were high and averaged more than 80%. Canadian participants were drawn from large teacher conferences representing more than 100 urban/suburban schools in and around a large metropolitan region. The U.S. participants taught in nine urban and suburban schools that included a range of socioeconomic status levels and ethnicity mixes. Korean participants represented a wide and mixed range of settings including nearly 50 schools. Although the samples in each setting were not randomly selected, they include teachers from a broad range of school settings, and there is little reason to believe the teachers in the study were different from ordinary teachers in each country.

Measures

The Collective Teacher Efficacy Belief Scale (CTEBS) was created by Tschannen-Moran and Barr (2004) and contains 12 items, with six items representing each of two factors: TCE for instructional strategies (e.g., "How much can teachers in your school do to produce meaningful student learning?"), and TCE for student discipline (e.g., "To what extent can teachers in your school make expectations clear about student behavior?"). The CTEBS was constructed to reflect teachers' individual perceptions about their school's collective capabilities to influence student achievement, and it is based on teachers' analysis of the teaching staff's capabilities to effectively teach all students. The CTEBS assesses individual perceptions of TCE and recognizes that, although collective beliefs may be shared beliefs, they are held by individuals. Hence, teachers from the same school may have differing perceptions of their school's collective efficacy. The CTEBS measure is conceptually superior to previous measures because it assesses teachers'

beliefs in their collective capabilities rather than the external factors that influence student achievement (Tschannen-Moran & Barr, 2004). In the validation study, the measure showed good reliability ($\alpha = .97$) and was significantly correlated with school-level achievement (Tschannen-Moran & Barr, 2004). The CTEBS has recently been used in non-Western cultural contexts (e.g., Israel), where it was shown to display acceptable reliability and validity (Schechter & Tschannen-Moran, 2006).

Job satisfaction was measured with a 4-item scale with strong evidence of reliability ($\alpha = .82$) and validity in a study conducted by Caprara et al. (2003). Items included the following: (a) "I am satisfied with my job," (b) "I am happy with the way my colleagues and superiors treat me," (c) "I am satisfied with what I achieve at work," and (d) "I feel good at work." Job stress was measured using a single item ("I find teaching to be very stressful"), following the approach used in recent studies of teacher stress (e.g., Boyle, Borg, Falzon, & Baglioni, 1995; Chaplain, 2008; Manthei, Gilmore, Tuck, & Adair, 1996). Collectivism was measured with the 6-item collectivism scale created and validated by Lukwago, Kreuter, Bucholtz, Holt, and Clark (2001). The measure showed reliability ($\alpha = .93$) and evidence of validity in the initial validation study. Lukwago et al.'s collectivism scale reflects an emphasis on family obligation that is common to previous measures of collectivism (e.g., Triandis, 1996; Triandis & Gelfand, 1998) but with the advantage of more reliable measurement. The items were prefaced by the stem, "In your opinion, how important is it that you and your family . . . , with responses including the following: (a) "take responsibility for caring for older family members?" (b) "turn to each other in times of trouble?" (c) "raise each other's children whenever there is a need?" (d) "do everything you can to help each other move ahead in life?" (e) "take responsibility for caring for older family members?" and (f) "call, write, or see each other often." Participants in the present study completed all measures using a 9-point response scale, with items summed to represent scores for each variable.

The Korean version of the questionnaire was translated following established translation protocols from cross-cultural psychology. For example, we used a team or committee approach to the translation-back-translation process that allows for multiple checks on functional and cultural validity (Peña, 2007). In addition, we used bilingual and multilingual translators who were experts in the research domain, thus ensuring that the translations were not only linguistically accurate but also valid in substance and meaning (van de Vijver & Leung, 1997). Last, our translations were guided by a meaning-based approach in which changes in sentence structure and wording were allowed in the translated version in order to reflect differences in thought patterns and syntax differences between the original and translated version of the instrument (Larson, 1998). The Korean version of the questionnaire was translated into Korean by a

researcher who was fluent in English and Korean and who specializes in motivation research, and independently back-translated by three translators with excellent knowledge of Korean and English. The independent translations resulted in general linguistic agreement, with only minor differences in wording of the items.

Analyses

We first examined descriptive statistics—reliability coefficients, means, and standard deviations—for the five variables (TCE for instructional strategies and student discipline, job satisfaction, job stress, and collectivism). We used a MANOVA to investigate how the combined variables differed according to setting, and we examined bivariate correlations among the variables. Next, we used multigroup confirmatory factor analysis to test for the equivalency of the factorial measurement (i.e., item-level loadings on factors) across groups. Because of our relatively small sample size and relatively high number of indicators, we chose to use observed rather than latent variables in our main analysis (Glazer & Beehr, 2005). The main analysis consisted of the use of structural equation modeling to conduct multigroup path analysis to investigate how the independent variables of TCE, job stress, and collectivism were related to the dependent variable of job satisfaction. Multigroup path analysis allows for (a) simultaneous testing of the contribution of each of the predictor variables to teachers' job satisfaction in each setting and (b) testing of the differences among path coefficients across the two groups of teachers (see Park & Huebner, 2005).

RESULTS

Reliabilities, Means, and Bivariate Correlations

Table 1 presents reliabilities, means, and standard deviations for the variables in the study. All measures displayed adequate reliability, ranging from a low of $\alpha = .79$ for TCE for student discipline in the United States to a high of $\alpha = .89$ for TCE for instructional strategies for the Canadian teachers. Results from the MANOVA revealed that the combined dependent variables were significantly different among the three groups, $F(8, 964) = 45.59, p < .001, \eta^2 = .27$. Follow-up analyses of variance (ANOVAs) revealed that means were similar in Canada and the United States on four of the five variables; the only difference observed was that American teachers rated TCE for instructional strategies significantly higher than did Canadian teachers, $F(1, 346) = 19.22, p < .001, \eta^2 = .05$. Teachers from Korea rated all variables significantly lower than did teachers from Canada and the United States (all $ps < .001$). To our surprise, Korean teachers rated levels

of collectivism significantly lower than did teachers from Canada and the United States, $F(2, 499) = 99.25, p < .001, \eta^2 = .29$.

In Table 2, we present the bivariate correlations among the five variables for each country. The correlations among the variables showed similar directions and magnitudes for the teachers in Canada and the United States, whereas the pattern of correlations showed some differences for Korean teachers. First, job stress was not significantly related to the two TCE variables for the Canadian and American teachers, and it was significantly inversely related to job satisfaction. In contrast, job stress was positively related to the two TCE subscales for Korean teachers and not significantly related to job satisfaction. In other words, for the Korean teachers, more confidence in the school's collective capability to influence student learning was associated with higher levels of stress for individual teachers, but job stress was unrelated to job satisfaction. For teachers from Canada and the United States, collectivism was modestly related to the two TCE variables, but not significantly related to either job satisfaction or job stress. For the Korean teachers, however, higher levels of collectivism were associated with higher TCE ratings and to higher levels of job satisfaction.

Multigroup Confirmatory Factor Analysis

For the subsequent analyses, we combined Canadian and American teachers into a single North American group for three reasons: (a) Canada and the United States show similar patterns of cultural dimensions (e.g., Hofstede & Hofstede, 2005), (b) the ANOVA and correlation analyses from this study revealed that teachers in the two countries displayed similar patterns of levels and correlations on the

TABLE 1
Reliability Coefficients and Levels of Teachers' Job Satisfaction, Collective Efficacy, Stress, and Collectivism Across Countries

Variable	Canada (<i>n</i> = 210)			United States (<i>n</i> = 137)			Korea (<i>n</i> = 153)		
	α	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>
Job satisfaction	.83	29.65 _a	4.24	.83	29.15 _a	4.93	.87	25.76 _b	5.28
Teachers' collective efficacy for instructional strategies	.89	43.97 _a	5.71	.85	46.51 _b	4.55	.87	37.67 _c	6.27
Teachers' collective efficacy for student discipline	.84	44.82 _a	5.60	.79	46.02 _a	5.01	.85	38.22 _b	3.87
Job stress		6.61 _a	2.09		6.25 _a	2.34		4.23 _b	2.20
Collectivism	.81	46.55 _a	6.57	.81	47.98 _a	6.24	.84	38.09 _b	7.12

Note. Means that have the same subscript on the same line are not significantly different at $p < .001$ using Scheffé comparisons.

study variables, and (c) combining the groups provides for more comprehensible interpretation of results. We used a multigroup confirmatory factor analysis using AMOS 16.0 (Arbuckle, 2007) to confirm the hypothesized factor structure of the variables (job satisfaction, TCE for instructional strategies, TCE for student discipline, job satisfaction, and collectivism) across the two groups (North American and Korean teachers). Good model fit is indicated by $\chi^2/df < 3.0$, root-mean-square error of approximation (RMSEA) less than .09, and goodness-of-fit values greater than .90 (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). A baseline model was estimated in each group separately, followed by across group estimates.

Baseline measurement models showed an adequate fit to the data for the North American teachers, $\chi^2/df = 2.38$, comparative fit index = .93, RMSEA = .06, for the Korean teachers, $\chi^2/df = 2.17$, comparative fit index = .91, RMSEA = .08, and for the combined groups, $\chi^2/df = 2.28$, comparative fit index = .91, RMSEA = .05. Error covariances were allowed to differ across groups (Byrne,

TABLE 2
Correlations for Teachers' Job Satisfaction, Collective Efficacy, Job Stress, and Collectivism in Canada, the United States, and Korea

Variable	1	2	3	4
Canada (<i>n</i> = 210)				
1. Job satisfaction				
2. Teachers' collective efficacy for instructional strategies	.39**			
3. Teachers' collective efficacy for student discipline	.42**	.67**		
4. Job stress	-.30**	.02	-.01	
5. Collectivism	.12	.23**	.16*	.08
United States (<i>n</i> = 137)				
1. Job satisfaction				
2. Teachers' collective efficacy for instructional strategies	.34**			
3. Teachers' collective efficacy for student discipline	.37**	.52**		
4. Job stress	-.24**	-.13	-.04	
5. Collectivism	.09	.22**	.17*	.02
Korea (<i>n</i> = 153)				
1. Job satisfaction				
2. Teachers' collective efficacy for instructional strategies	.47**			
3. Teachers' collective efficacy for student discipline	.48**	.83**		
4. Job stress	.08	.30**	.24**	
5. Collectivism	.53**	.40**	.47**	.10

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

2004), and there were two correlated error variances for each group—one in common (TCE $\delta_{1,2}$) and one unique to each group, for the North Americans ($\delta_{3,4}$) and for the Koreans (TCE $\delta_{2,3}$). All correlated error variances were on adjacent items, suggesting a response bias as a possible explanation. Factor loadings were significant for all items across groups, and they were moderate to high, ranging from .53 to .89. Results from the test of the baseline models confirm that the factors correspond to the hypothesized structure, and provide evidence of internal validity and invariance of pattern coefficients across groups.

Comparison of the Relative Importance of TCE, Job Stress, and Collectivism to Job Satisfaction

The multigroup path analysis involved specifying and testing a series of models, wherein sets of path coefficients were constrained to be equal across the two groups and then compared. If the proposed model did not yield a good fit, subsequent less-restrictive models with freed path coefficients were proposed and compared to the initial model. Model fit was evaluated through examination of the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), and chi-square (χ^2). The chi-square difference test ($\Delta\chi^2$), which tests the statistically significant change in chi-square values between nested models, was used to examine model fit (Byrne, 2004).

Figure 1 graphically portrays the path analysis, and Table 3 summarizes the results of testing differences of path coefficients of the four predictor variables to job satisfaction for North American and Korean teachers. The first model with all path coefficients constrained to be equal across groups suggested a problem in fitting the model to the data (e.g., TLI = .83; RMSEA = .10, $\chi^2(4) = 23.21$, $p < .001$). Constraints were released one at a time in the order of the magnitude of difference of path coefficients in the two groups (i.e., collectivism followed by job stress, TCE for instructional strategies, and TCE for student discipline). The releasing of the collectivism constraint across groups improved the model fit

TABLE 3
Testing the Equivalence of Path Coefficients for North American and Korean Teachers

<i>Model tested</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>	$\chi^2(df)$	<i>p</i>	$\Delta\chi^2(df)$
1. All path coefficients equal	.97	.83	.10	23.21(4)	<.001	
2. All paths except collectivism equal	.99	.97	.04	5.76(3)	.12	17.45(1)**
3. All paths except collectivism and stress equal	1.00	1.01	.00	1.38(2)	.50	4.38(1)*

Note. CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation.

* $p < .05$. ** $p < .001$.

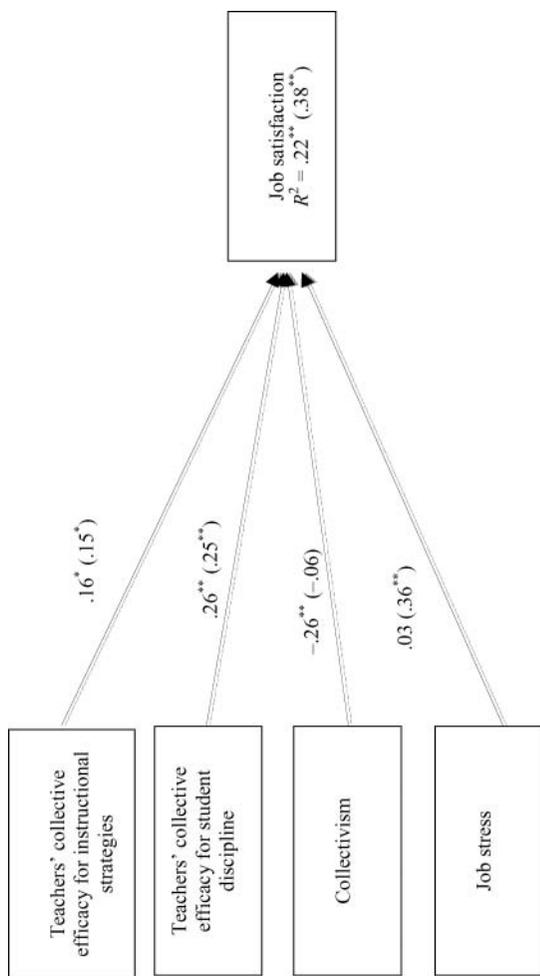


FIGURE 1 Path diagram for variables predicting job satisfaction for North American and Korean teachers. Values represent standardized coefficients. Results for Korean teachers are in parentheses. * $p < .01$. ** $p < .001$.

significantly, $\Delta\chi^2(1) = 17.45, p < .001$. Freeing the job stress constraint resulted in a further significant improvement in model fit, $\Delta\chi^2(1) = 4.38, p < .05$. Freeing the two TCE variables did not result in additional significant improvements to the fit of the model to the data. The four variables explained 22% of the job satisfaction variance for North American teachers and 38% of the job satisfaction variance for Korean teachers. The results from the multigroup path analysis revealed group differences in the contribution of collectivism and job stress to job satisfaction across the two groups.

Table 4 presents the path coefficients of the four predictor variables on North American and Korean teachers' job satisfaction. The path coefficient for collectivism was significantly higher for teachers in Korea, whereas the job stress path coefficient was significantly higher (although negative) for teachers in North America. There were no significant differences in the contributions of TCE for instructional strategies or TCE for student discipline, with both forms of collective efficacy significantly contributing to job satisfaction of North American and Korean teachers. The results from testing the path coefficients of the four predictor variables suggest that collectivism and job stress do not predict job satisfaction in the same way for North American and Korean teachers, whereas the two TCE variables operate in a similar fashion across groups.

DISCUSSION

The purpose of the present study was to examine the relations among teachers' job satisfaction, collective efficacy, job stress, and the cultural belief in collectivism among teachers from two North American countries and one East Asian country. The results from the study clarify the relation between TCE and several important correlates in diverse settings and specifically point to differences in the roles played by collectivism and job stress in their links with job satisfaction for teachers in North America and South Korea. At a broader level, the study is among the first to examine teachers' collective motivation beliefs using a cross-cultural framework, and it heeds Pajares's (2007) counsel that motivation research in educational settings will only have practical value if studies and findings are "understood as being bounded by a host of situated, cultural factors that must be attended to" (p. 19).

We found that Canadian and U.S. teachers consistently rated all variables higher than Korean teachers, but our primary focus was on the relationships among TCE, collectivism, stress, and job satisfaction, which differed across cultural contexts. Studies of teacher self-efficacy conducted by Lin, Gorrell, and Taylor (2002) and Ho and Hau (2002) showed similar patterns of consistently higher teachers' efficacy beliefs for Western teachers in comparison with East Asian teachers. We were initially surprised that Korean teachers rated collectivism lower than did the

TABLE 4
 Path Coefficients of Teachers' Collective Efficacy, Job Stress, and Collectivism on Job Satisfaction for North American and Korean Teachers

Culture	Teachers' Collective Efficacy for Instructional Strategies			Teachers' Collective Efficacy for Student Discipline			Job Stress			Collectivism			R ²
	B	SE	β	B	SE	β	B	SE	β	B	SE	β	
North America	.13	.05	.16*	.21	.05	.26**	-.53	.09	-.26**	.02	.03	.03	.22**
Korea	.13	.05	.15*	.21	.05	.25**	-.14	.16	-.06	.27	.05	.36**	.38**

Note. Results were based on the best fitting model, which allows only collectivism and stress to vary across groups.

* $p < .01$. ** $p < .001$.

North American teachers, but a look at previous cross-cultural comparisons have revealed similar patterns. For example, the meta-analysis conducted by Oyserman, Coon, and Kimmelmeier (2002) showed American collectivism scores to be equal with or higher than Japanese and Korean collectivism scores, and Matsumoto (1999) reported a series of studies showing East Asians with lower collectivism ratings than Americans. Heine (2003, 2004) has noted that differences in levels of self-beliefs may be influenced by culturally derived response biases such as self-effacing bias. He contended that respondents from individualist settings typically rate personal attitudes and beliefs higher than do respondents from collectivist settings; therefore, mean differences may not necessarily reflect meaningful cross-cultural differences. For this reason, we place greater emphasis on our findings related to the relation among collective efficacy, collectivism, stress, and job satisfaction.

Our first hypothesis—that TCE would be positively related to job satisfaction across settings—was confirmed. The bivariate correlations between the two TCE subscales and job satisfaction were similar for North American and for Korean teachers. Results from the multigroup path analysis revealed no significant differences in the relationship between the TCE subscales and job satisfaction for North American and Korean teachers—TCE for instructional strategies and TCE for student discipline were modestly but significantly associated with job satisfaction across settings. The results confirm the importance of TCE as a variable related to teachers' job satisfaction and extend current teacher motivation knowledge by showing that the relationship between TCE and job satisfaction holds true in the contrasting cultural settings examined in the study. It should be noted that our study was designed to let TCE, job stress, and collectivism predict job satisfaction; that is, we decided a priori the causal direction of the relationships. Social cognitive theory suggests that the relationship among such variables is likely reciprocal (Bandura, 1997). For example, in the same way that beliefs in collective efficacy influence job satisfaction, so might teachers who are highly satisfied with their job experience report higher levels of collective efficacy beliefs in their current setting. Future research designs could include temporal lags that would permit a more straightforward investigation of causal relationships. The combined variables of TCE, job stress, and collectivism explained only modest variance in job satisfaction in the two groups (22% and 38% for North Americans and Koreans, respectively). Other variables have shown to be relevant to job satisfaction, such as self-efficacy and school socioeconomic status. The amount of explained variance is consistent with previous research that has shown TCE to explain modest but significant variance in outcome variables such as student achievement and teachers' job satisfaction (Klassen et al., 2008; Tschannen-Moran & Barr, 2004).

Our second hypothesis—that teachers' collectivism beliefs would be more strongly associated with job satisfaction for Korean teachers—was also confirmed.

Our results replicate and extend Hui and Yee's (1999) findings that workers in a culturally collectivist setting (i.e., Hong Kong) who possess stronger collectivist values enjoy greater job satisfaction than do workers lower in collectivist values. In our study, a collectivist cultural orientation emerged as a strong predictor of job satisfaction for Korean teachers ($\beta = .36, p < .001$), but the same relationship was not found for North American teachers, ($\beta = .03, p = ns$). In cultures that value the group over and above the individual, being a collectivist appears to influence satisfaction from work. Perhaps for Korean teachers, the relationship between collectivism and job satisfaction is the result of a stronger cultural emphasis on avoiding conflict and enhancing group harmony in workplace settings (Yetim & Yetim, 2006), whereas North American teachers may focus on individual needs that are less likely to be met by working in group settings, such as schools (Huang & Van de Vliert, 2004). Kirkman and Shapiro (2001) advanced the argument that workers for whom individualism is a stronger cultural dynamic may resist group work or team work more than collectivists may, and as a result, may experience less satisfaction in work environments (e.g., schools) that require individual effort (e.g., teachers providing instruction in classrooms) but also group or collective efforts (e.g., teachers working together to design and implement innovative curriculum).

Our collectivism measure emphasized the importance of duty to one's family, and although teachers across the settings endorsed the importance of family obligations, the relationship with job satisfaction showed significance only for Korean teachers. It is plausible that for Korean teachers, a compatibility of family beliefs, societally held cultural values, and workplace values results in stronger feelings of satisfaction from work. The relationship between collectivism and job satisfaction in the Korean setting may be an example of how the fit between the worker and his or her work environment influences vocational attitudes, beliefs, and performance. In person-environment fit theory, the compatibility between employees' goals and their workplace goals influences vocational outcomes such as job satisfaction, organizational commitment, and professional commitment (Caldwell, Herold, & Fedor, 2004; Kim & Park, 2006). The findings from our study point to differences in the fit between cultural values and workplace environment across cultures, whereby teachers for whom collectivist cultural values are more deeply engrained experience more job satisfaction and may find a better fit in schools in a collectivist cultural setting.

Our third hypothesis—that job stress would be significantly associated with job satisfaction across settings—was not confirmed. Other recent studies have pointed to differences in job stress according to cultural setting and values (e.g., Glazer & Beehr, 2005; Liu, Spector, & Shi, 2007). In our study, job stress was inversely correlated with job satisfaction for North American teachers (as expected) but not for Korean teachers. For Korean teachers, job stress was positively correlated with TCE, with the implication that as Korean teachers find themselves amidst

colleagues whom they perceive as highly competent, they experience higher levels of job stress. The heightened job stress, however, did not lower their job satisfaction. These findings can be easily understood if we assume that these teachers distinguished between "teaching as a daily chore" and "teaching as a vocation." Bong (2003) noted that Korean schools' "obsession with performance" (p. 324) is hallmarked by an emphasis placed by students and teachers on upward social comparison. Cross-cultural research on social comparison has found that people in collectivist countries tend to make upward comparisons, whereas people in individualist countries tend to make downward comparisons (e.g., Chung & Mallery, 2000; White & Lehman, 2005). The collectivist cultural tendency of upward social comparison and focus on better student outcomes may result in Korean teachers experiencing greater stress when working in schools where colleagues are perceived as high performing. There is little reason to believe that this peer pressure will translate into increased discontent with their job because being a schoolteacher in Korea means better economic security and job stability. In fact, factors such as guaranteed social status, fewer and more flexible working hours, a higher retirement age, and a better pension plan compared with those offered by most other occupations have long been among the highest ranked reasons for entering the teaching profession among the beginning teachers and college students in Korea (e.g., Choi, 1996; Shin, Song, & Jung, 2007). The same factors underlie the responses of a vast majority of the students majoring in elementary education (e.g., 70.5% in H. Yoon, Kim, Lee, & Kim, 1982; 91.3% in Chang, Kim, & Kim, 1992), who indicated that they would be satisfied once they became teachers. The strong job satisfaction deeply rooted in occupational stability would not be easily threatened unless relevant economic and social factors change dramatically.

Limitations. The study's limitations should be noted. Although I/C is the most commonly investigated cultural dimension, other cultural dimensions such as uncertainty avoidance and power distance may help explain teachers' motivation beliefs (Triandis, 1996). Although our measure of collectivism was conceptually and psychometrically strong, the measure focused only on family duty and not on broader commitment to an in-group, and it represents only the relational collectivism discussed by Brewer and Chen (2007). Thus, the finding that relational collectivism was more strongly linked with job satisfaction for Korean teachers should be interpreted with care in light of the restricted operationalization of collectivism in this study. The sample of teachers in this study was drawn from limited geographical contexts in each country and may not be nationally representative. At the same time, the Canadian and Korean samples came from a wide range of schools, and the similarities in levels and correlations of variables from the Canadian and American samples suggest the pattern of results in this study

may mirror results that would be obtained from other North American teachers. Caution should be used when drawing conclusions from our study about psychological tendencies of teachers from Western cultures and teachers from Eastern cultures.

Our samples were drawn from three countries, and although people from various East Asian countries may share some cultural commonalities, there remains a wide diversity of cultural practices and beliefs in the region. As has been noted, the relationships discussed among variables in the study are very likely reciprocal and not causal. For example, teachers' job satisfaction may influence collective efficacy and job stress, and causation is implied neither by our findings nor by the language (i.e., "predict" and "influence") we use in the study. Last, the job stress measure consisted of only a single item. However, recent studies have supported the inclusion of single item measures of job-related beliefs (e.g., Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2005; Nagy, 2002) because of high levels of face validity and convenience for data collection in busy workplace settings, and many previous studies measure job stress using one item (e.g., Boyle et al., 1995; Chaplain, 2008; Manthei et al., 1996).

Implications. The study holds clear implications for education and for theory. TCE is an important factor that influences job satisfaction across the cultures examined in this study, but teachers' perceptions of job stress may be more strongly associated with job satisfaction for North American teachers, and cultural values such as collectivism may influence job satisfaction more for Korean teachers. Our results highlight the importance of considering not only the geographical context in teacher motivation research, but also the role played by teachers' cultural values. For North American teachers, enhancing collective efficacy by providing administrative support, increasing teachers' control of the teaching environment, and offering opportunities to influence school policies (Ware & Kitsantas, 2007) may reduce stress and increase job satisfaction. Developing collective efficacy may enhance job satisfaction in Korean schools as well, but the outcome of reduced stress may not inevitably follow. For motivation theorists, the results from this study provide yet more evidence that cultural context influences how motivation beliefs are understood and expressed in diverse settings. Future research should test and extend these findings using longitudinal and qualitative approaches in order to better understand the links between collective and individual motivation beliefs in diverse school settings. In addition, future studies might include more nuanced understandings and measurement of cultural beliefs, such as Brewer and Chen's (2007) model of individualism and collectivism. Adopting more sophisticated understandings of individualism and collectivism, for example, would help explain the relationship among work, cultural influences, and motivation beliefs.

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