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## Factor Structure of Multicultural Teaching Competency Scale for School-teachers in Hong Kong

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*Abstract: This study investigates the perceptions of teaching competency in multicultural classrooms held by 421 teachers at 16 schools in Hong Kong. The aims of the study are (a) to use confirmatory factor analysis to validate a culturally appropriate version of the Multicultural Teaching Competency Scale (MTCS), (b) to assess three types of multicultural-teaching competency, and (c) to provide recommendations for teacher-education institutes and policy makers on developing effective training in multicultural education. The results indicate that a tripartite model assessing skills, knowledge, and relationships, the core features of multicultural-teaching competency as assessed by the MTCS from a Hong Kong sample. The teachers all identified multicultural-teaching relationships as the most important component of multicultural-teaching competency. Future researchers should examine the concurrent validity of the MTCS and the cultural contexts of multicultural-teaching relationships. Recommendations are also made for incorporating the Confucian beliefs of fairness, justice, and equity into multicultural classroom.*

### Introduction

Hong Kong is widely recognized as an international and ethnically diverse city. Although ethnic minority residents currently comprise only 5% of the population, this proportion has increased sharply. In 2001, 11,204 ethnic minority students (EMSs) under the age of 15 were enrolled in Hong Kong schools. By 2006, this number had grown by 20% to 13,472. In 2007, 28,722 EMSs were studying full time at educational institutions in Hong Kong. By 2011, this number had increased by 50% to 42,079 (Hong Kong Census and Statistics Department, 2007). Many of these students come from disadvantaged socioeconomic backgrounds, and often experience difficulties in learning Chinese and English, along with various adaptation problems.

To date, no policies on ethnic-minority education or multicultural education have been formulated in Hong Kong (Jackson, 2014; Poon-McBrayer, 2014); the majority of the region's EMSs are allocated to a small number of primary and secondary schools and taught by local Chinese teachers. Some researchers have raised concerns about the extent to which classroom support fulfills the learning needs of these students, given their cultural diversity; and others have investigated teachers' perceptions of their own teaching competency in such multicultural classrooms (Bhowmik, 2013; Bhowmik & Kennedy, 2013; Kennedy, 2011, 2012). The insights provided in the current study will help teachers, school managers, and policy makers to foster teachers' multicultural-teaching competency and create supportive multicultural classroom environments.

## **Cultural Diversity in the Hong Kong Classroom**

Although the student body is comprised of the Chinese majority, Hong Kong schools also accommodate a growing number of non-Chinese pupils. Hong Kong teachers have tried to make sense of students' cultural diversity by distinguishing "local" from "non-local" in terms of race, culture, religion, and way of life. This process of division creates four categories of students: Hong Kong Chinese students, EMSs born in Hong Kong, new immigrant EMSs, and new immigrant students from mainland China. Students in the first category are considered local, and the others non-local (Hue & Kennedy, 2014). These students are grouped differently at different schools. In some cases, students perceived as non-local and local are taught in separate classrooms.

In an extensive study of Hong Kong teachers, Hue and Kennedy (2014) explored constructs of multiculturalism observed among local Chinese teachers. They identified four main elements of multiculturalism: recognition of students' different learning styles, management of cultural diversity, promotion of harmonious interpersonal relationships, and creation of culturally integrated environments. When asked to evaluate their competency at the classroom level, the teachers participating in the study reported that they were more confident in classrooms with a single category of students (i.e., local or non-local), and normally found it challenging to teach classes made up of both local and non-local students. At the school level, the teachers recognized the difficulties involved in implementing multicultural education, especially in creating harmonious interpersonal relationships and culturally integrated environments. These difficulties were reflected in the structure and organization of teaching, which was divided between three class types: "Chinese/local," "ethnic-minority/non-local," and "mixed" (local and non-local students). In essence, the system was as follows. Students who could be taught in Chinese were streamed into Chinese/local classes, which generally comprised local Chinese students and new immigrants from mainland China. Students who could neither speak nor read Chinese, such as new immigrant EMSs and EMSs born in Hong Kong, were streamed into either ethnic-minority/non-local classes or mixed classes (Hue & Kennedy, 2014). The teachers reported that the Chinese students and the EMSs had no opportunities to interact with each other, except when brought together in school contexts outside the classroom. The mixed classes were also to some degree segregated. Although these classes comprised both Chinese students and EMSs, the interaction between the groups tended to be limited. The students seemed to interact only when directed by their teachers to engage in collaborative learning activities. The teachers were eager to explore ways to strengthen the interpersonal relationships between students with diverse ethnic backgrounds, and between students and teachers in the classroom. Most of their difficulties were caused by a lack of training in multicultural education provided in professional-development courses for Hong Kong teachers. In sum, managing the diverse learning needs of ethnic-minority and Chinese students in Hong Kong was regarded by both the teachers and the school managers involved in this study as an extremely urgent task (Hue & Kennedy, 2014).

## **Issues of Competency in Multicultural Education in Hong Kong**

Multicultural education is designed to create equal educational opportunities for students from diverse cultural groups; to help all students to acquire the knowledge, attitudes, and skills needed to function effectively in society; and to enable students to communicate with people from diverse groups to create a civic and moral community for the common good (Banks & Banks, 1995). Talbot (2003) suggested that the ultimate goal of multicultural

education is to create an inclusive environment that empowers and encourages all students to develop an awareness of diverse social and cultural backgrounds. Crowder (2013) identified three components of the general concept of multiculturalism, namely, the presence of multiple cultures, the approval of multiple cultures, and the positive recognition of cultural multiplicity by a society's policy makers and public institutions. With particular attention to school education, Banks (2008) identified five dimensions of multiculturalism: (1) content integration, (2) knowledge construction, (3) the eradication of prejudices, (4) an equitable pedagogy, and (5) an empowering school culture and social structure.

In the unique multicultural context of Hong Kong, a growing body of research has highlighted issues related to teachers' multicultural competence, intercultural sensitivity and education (Yuen, 2004; Gu & Canagarajah, 2018; Tang, Wong, & Cheng, 2016). Teachers hold ethnocentric world views with a limited or superficial understanding of cultural differences and often lack the skills and knowledge to deal with the issues of diversity in the schools (Grossman & Yuen, 2006; Westrick & Yuen, 2007). Consequently, teachers are insensitive to intercultural differences, which may potentially affect students' intercultural education (Yuen, 2004; 2010; Jackson, 2017). Moreover, studies with both in-service and pre-service teachers have also underscored the need to equip teachers with the required competence to teach in Hong Kong schools (Tang, Wong, Cheng, 2015, 2016a, 2016b; Gu, 2013, Gu & Canagarajah, 2018).

While teachers' pedagogical practices may place non-Chinese students into a disadvantaged position, their linguistic and culture dissonance can also hamper the academic performance of students from Mainland China. Despite sharing a common heritage culture and ethnicity, the lack of multicultural competency among Hong Kong teachers also put many Chinese immigrant students into a disadvantaged position (Zhao, 2018; Poon-McBrayer, 2014). Consequently, teachers fail to identify their diverse pedagogical needs and respond to them accordingly in Hong Kong schools. In the absence of a multicultural education policy and curriculum (Jackson, 2014), the lack of knowledge and skills among teachers to respond students' diverse learning needs neither facilitates students' learning nor can contribute to the school leadership in meeting the challenges of 'difference' and 'difficulty' stemming from diverse students population (Szeto, Cheng & Sin, 2019). Thus, teachers' agency and professional learning in cross-cultural teaching contexts are not only critical for their multicultural competency but also essential for students' intercultural learning (Lai, Li & Gong, 2016).

Numerous researchers investigating multicultural education have emphasized the need to explicitly address teachers' multicultural-teaching competency in teacher-training programs (Cockrell, Placier, Cockrell, & Middleton, 1999; Gay, 2005; Townsend, 2002). For example, it has been suggested that teachers should be equipped with skills in managing cultural diversity and promoting cultural responsiveness (Cochran-Smith, 1995; Cockrell et al., 1999; Gay, 2005). Some researchers have even argued for "mandatory teacher certification in culturally responsive pedagogy" (Townsend, 2002, p. 77). A variety of approaches to improving multicultural-teaching competency have been proposed, such as (a) the provision of separate multicultural education, (b) the full integration of multicultural and traditional education, and (c) a dual-curriculum approach that promotes diversity and equity in the preparation of curricula while maintaining multicultural education as a distinct specialization (Gay, 2005).

## Measurement of Multicultural-Teaching Competency

Spanierman et al. (2011) developed a multidimensional scale based on a study by Sue et al. (1982) in which awareness, knowledge, and skills were identified as three aspects of multicultural-teaching competence. The original 56-item scale used by Sue et al. (1982) to assess these three factors was reduced by Spanierman et al. (2011) to a 16-item measure addressing only two factors: knowledge and skills. The whole emphasis on knowledge and skills by Spanierman and colleagues results in two assumptions. First, that teachers' knowledge and skills not only accurately and fully reflect their multicultural-teaching competency but precisely capture their *perceptions* of their competency—especially the perceptions of teachers with little awareness of or training in multicultural teaching. Second, that different measures have different foci, determined by the professional-development needs of specific fields. For instance in the field of counseling, the Multicultural Counseling Inventory (MCI; Sadowsky, Taffe, Gutkin, & Wise, 1994) has four dimensions (awareness, knowledge, skills, and relationships), whereas the Multicultural Counseling Knowledge and Awareness Scale (MCKAS; Ponterotto, Gretchen, Utsey, Rieger, & Austin, 2002) has only two dimensions, knowledge and awareness of multicultural counselling. However, it remains unclear whether the model of multicultural-teaching competency proposed by Sue et al. (1982) is justifiably prevalent in the multicultural counseling psychology literature.

In the current study, a version of the Multicultural Teaching Competency Scale (MTCS) based on the short (16-item) form (Spanierman et al., 2011) of the 56-item scale proposed by Sue et al. (1982) was developed for use in Hong Kong schools. The tripartite model of multicultural competency (Sue et al., 1982) emerged within counselling psychology. Counselling psychology training entails a strong self-focus, such that graduate students devote much effort to understanding their affective reactions to their therapy clients. While a tripartite model of multicultural teaching competency developed by Spanierman (2011) indicated the perceptual processes of teachers, especially those with little multicultural teaching awareness training. The objectives were to determine whether the model proposed by Sue et al. (1982) adequately explains the multicultural-teaching competency of Hong Kong school-teachers, and to provide teacher-training institutes with guidelines for preparing high-quality multicultural teaching training programs for school-teachers in Hong Kong. The validity of the measure was tested by assessing the extent to which the teachers' responses reflected the three interrelated dimensions—awareness, knowledge, and skills—identified in the original U.S. version (56 items) of the 16-item scale proposed by Spanierman et al. (2011). The construct of *awareness* was measured in three dimensions: (a) teachers' awareness of themselves and others as cultural beings, (b) teachers' awareness of their attitudes and biases, and (c) teachers' awareness of the need to create culturally sensitive environments. *Knowledge* was measured in two dimensions: (a) teachers' implementation of a culturally responsive pedagogy and teaching strategies appropriate to students' cultural and ethnic diversity, and (b) teachers' knowledge of the sociopolitical and cultural realities that may affect relationships between individuals in the classroom. The construct of *skills* was assessed in terms of teachers' ability (a) to devise, implement, and evaluate strategies that facilitate students' academic achievement and personal growth, (b) to select and implement culturally responsive strategies for behavior management, and (c) to review and evaluate policies, procedures, and practices designed to increase cultural responsiveness (Spanierman et al., 2010).

## Method

### Participants

We collected data from 420 teachers at 16 schools (11 primary schools and 5 secondary schools). We excluded 39 (9.29%) of the respondents, as they failed to provide missing responses to five or more items, resulting in a net sample size of 381. The sample consisted of 235 primary school teachers and 146 secondary school teachers. Each of the participating teachers had a Bachelor's degree, a teaching certificate, and at least 2 years' teaching experience. One hundred and one of the participating teachers (26.5%) had more than 15 years' teaching experience, 114 (29.9%) had 4 to 8 years' experience, and the remaining 68 (17.9%) had 10 to 15 years' experience. Male participants made up 130 (34.1%) of the sample, and the remaining 251 of the participants were female (65.9%). The participants' ages ranged from 25 to 42, with mean ages of 36.5 years for the male teachers and 37.2 years for the female teachers. The sample comprised 361 Chinese teachers (94.8%), 7 ethnic-minority teachers (1.8%), and 13 who did not declare their nationality (3.4%). Two hundred and thirty-five of the participants were atheist (64.4%), 99 were Christian (27.1%), 17 were Catholic (4.7%), 4 were Jewish (1.1%), 7 were Islamic (1.9%), and 3 were Hindu (0.8%). Sixteen participants (4.5%) did not declare their religion.

### Procedure

The questionnaire comprised the 56-item MTCS and a brief demographic questionnaire (on gender, educational background, years of teaching experience, religious affiliations, and multicultural training). The 56-item MTCS was translated into Chinese, then "back-translated"—a procedure commonly used in the translation of cross-cultural research instruments (Cheng & Hamid, 1995; Mason, 2005)—into English. The translation process was carried out by two translators. One translator was responsible for the English to Chinese translation, and the translated instrument was back-translated by another translator, who had no access to the original instrument prior to the translation. Next, the two translators together compared the back-translated items with the original items to identify discrepancies, and modified the translated version accordingly. The translated instrument was sent to the research investigators, who were bilingual in English and Chinese, for term checking and approval. After receiving permission from the school principals, we distributed the surveys to the teachers via the research assistant. All of the participants were informed that their participation was voluntary and that all of the data collected would be destroyed once the study was complete. The teachers completed the MTCS in approximately 5 to 8 minutes.

### Statistical Analysis

We randomly split the data into two sets, which were each subjected to exploratory factor analysis (EFA;  $n = 100$ ) and confirmatory factor analysis (CFA;  $n = 281$ ). The researchers performed EFA with oblique rotation (Costello & Osborne, 2005) to identify the underlying factor structure that best fit the dataset and the theoretical framework of both models, Sue (1982) and Spanierman (2011). CFA was then used to confirm the factor structure derived from the EFA. Next, we conducted CFA separately for the teachers with and without multicultural-education training to test for multiple-group invariance. The model fit was evaluated using a structural-equation model with the following indicators: the comparative-fit index (CFI), the Tucker-Lewis Index (TLI), the root mean square residual (RMR), and the root mean square error of approximation (RMSEA). For all of the indicators

except RMSEA, the recommended cutoff criterion for a good fit is 0.90 (with a large sample; see Joreskog & Sorborm, 1989). The recommended cutoff for RMSEA is 0.08 or below (Browne & Cudeck, 1993). We adopted the recommended thresholds. The statistical software package AMOS 20.0 was used to carry out the CFA. Multivariate analysis of variance (MANOVA) was performed to investigate the effects of demographic differences (e.g., gender, years of teaching experience, and multicultural training) on the factors identified in the EFA and CFA.

## Results and Discussion

### Results of the EFA for the MTCS Items

The results of the EFA of the original 56-item MTCS indicated that two items had a factor loading below 0.30 (Worthington & Whittaker, 2006). These items were dropped from the analysis. The 16 factors extracted from the 54 remaining items explained 64.85% of the total variance. The Kaiser-Meyer-Olkin (KMO) value was 0.65, which is less than 0.70, indicating that the number of items for each factor was insufficient (Leech, Barrett, & Morgan, 2008). The number of extracted factors was greater than that reported in the multicultural teaching competency literature.

Following the literature, we next examined two- and three-factor solutions. However, neither met the KMO criteria (i.e.,  $KMO > 0.70$ ), and in both cases the explained variance was relatively low (27.54% and 32.34% respectively).

Therefore, we performed EFA using the short (16-item) version of the MTCS developed by Spanierman et al. (2010) with another split sample randomly selected from the total sample. As none of the items had a factor loading below 0.30, no items were dropped from the analysis. The three factors extracted from the 16-item MTCS—skills, knowledge, and relationships—explained 42.26% of the total variance. The KMO value was 0.91, which is greater than 0.70, indicating that the number of items for each factor was sufficient (Leech, Barrett, & Morgan, 2008). The three-factor solution met multiple fit criteria: each factor contained a minimum of three items, exhibited sufficient internal consistency, and was interpretable and consistent with the conceptualization of multicultural-teaching competency (Tabachnick & Fidell, 2007).

The mean responses, standard deviations, and correlations between the 14 items were calculated, and 2 items were deleted from the original 16 items based on the modification index of the MTCS (Hong Kong version). The means of the 14 items ranged from 3.44 to 4.79. The overall reliability of the MTCS with the current sample was 0.80, and the Cronbach's-alpha values calculated for the three subscales ranged from 0.69 to 0.90. All of the items met the assumptions of normality, with skewness and kurtosis values between -1.00 and 1.00 (skewness ranged from -0.03 to -0.86, and kurtosis ranged from -0.56 to 0.80). The goodness of fit of the three-factor model of the MTCS was evaluated using maximum likelihood estimation procedures performed by AMOS.

### Factor Structure of MTCS (Short Form—Hong Kong Version)

The three-factor model derived from the EFA was found to statistically fit the data obtained from the remaining 281 participating teachers. Several psychometrics researchers have proposed that a model demonstrates a reasonable fit if the chi-square ( $\chi^2$ ) statistic adjusted by its degrees of freedom ( $df$ ) does not exceed 3.0 (Kline, 2004); that is,  $\chi^2 / df \leq 3$ . In this study,  $\chi^2$  was 219.32 and  $df$  was 74, giving an adjusted  $\chi^2$  statistic of  $219.32 / 74 =$

2.96, which is less than 3. The model indexes indicated an acceptable conceptual fit: CFI = 0.92, TLI = 0.90, RMR < 0.05, and RMSEA < 0.08. However, the number of items in the MTCS was reduced from 16, as used in the short form of the scale developed by Spanierman et al. (2010), to 14. The results of the CFA of the three-factor model identified via EFA revealed that two items from factor 1—item A2, “I rarely examine the instructional materials I use in the classroom for racial and ethnic bias,” and item A54, “I often promote diversity in my own behavior”—were redundant. After these two items were omitted, the three-factor model still provided a good fit to the data. Of the model’s three factors, Factor 3 had the highest factor loading.

### Fit of Three-Factor MTCS for Teachers with and without Multicultural Training

The potential measurement invariance in the factor loadings for the multicultural teaching competency model was tested by comparing a constrained model—in which all of the factor loadings were equal across the two groups (i.e., teachers with and without multicultural training)—with a baseline model. The difference in CFI between the models for the teachers with and without multicultural training was  $0.91 - 0.90 = 0.01$ , indicating multiple-group invariance. The goodness of fit index ( $\chi^2$ ) increased non-significantly ( $\chi^2$  difference (diff) = 9.73;  $df$  diff = 11,  $p > .05$ ), which indicated that the items used to measure multicultural-teaching competency in the three-factor model were statistically equivalent for the Hong Kong teachers who had and had not received training in multicultural teaching. In addition, the results revealed non-invariant factor loadings on the three factors, as well as variance and covariance between the two groups (see Table 1). These findings support our conclusion that the three-factor model is applicable to both teachers with multicultural training and teachers without such training (Cheung & Rensvold, 2002).

Model Description	$\chi^2$	$df$	$\Delta\chi^2^a$	$\Delta df$	Statistical Significance
1. Combined baseline models (teachers with no training and teachers with training)	289.797	146	-	-	-
2. Factor loadings, variances, and covariances constrained equal	299.534	157	9.737	11	$p > 0.05$
3. Factor loadings constrained equal	299.534	157	9.737	11	$p > 0.05$
4. All factor loadings and factor variances constrained equal	306.318	160	16.521	14	$p > 0.05$
5. All factor loadings and variance of Factor 1 constrained equal	304.532	158	14.735	12	$p > 0.05$
All factor loadings and variance of Factor 2 constrained equal	299.594	158	9.797	12	$p > 0.05$
All factor loadings and variance of Factor 3 constrained equal	299.729	158	9.932	12	$p > 0.05$
6. All factor loadings and variances of Factor 1 and 2 constrained equal	305.249	159	15.452	13	$p > 0.05$
All factor loadings and variances of Factor 1 and 3 constrained equal	305.917	159	16.12	13	$p > 0.05$
All factor loadings and variances of Factor 2 and 3 constrained equal	299.883	159	10.086	13	$p > 0.05$

Note.  $\Delta\chi^2$  = difference in chi-square values;  $\Delta df$  = difference in degrees of freedom.

<sup>a</sup>All models compared with Model 1.

**Table 1 Goodness-of-Fit Statistics for Tests of Invariance across teachers with no training and teachers with training: A summary (MTCS14 3-factor model)**



### Tripartite Model of the MTCS (Hong Kong Sample)

The multicultural-competency model developed by Sue et al. (1982), the most commonly used model in the multicultural counseling psychology literature, may in part explain the multicultural-teaching competency of Hong Kong school-teachers. However, the three key factors identified in this study were not awareness, knowledge, and skills, as proposed by Sue et al. (1982), but multicultural-teaching skills, multicultural-teaching knowledge, and multicultural-teaching relationships (cultural harmony).

**Factor 1: multicultural-teaching skills.** Two items, item A2 and item A54, were identified as redundant and thus not included in the construct measuring multicultural-teaching skills. The teachers may have thought that item A4, “instructional materials promoting diversity,” and item 18, “behavior promoting diversity,” were reflected in other items, such as those concerning the celebration of diverse cultural practices, the integration of culturally diverse topics, events, values, and ways of life, and the incorporation of the cultural knowledge of racial- and ethnic-minority groups into teaching (see Table 3). The items used to assess the “multicultural-teaching skills” factor captured teachers’ ability to review, implement, and evaluate strategies for (a) promoting students’ academic achievement and personal growth, (b) managing behavior, and (c) incorporating culturally responsive policies, procedures, and practices into their teaching (Spanierman et al., 2010).

**Factor 2: multicultural-teaching knowledge.** Item A37, “I consult regularly with other teachers or administrators to gain an understanding of multicultural issues relevant to my teaching,” was included in the factor measuring multicultural-teaching knowledge rather than the factor measuring multicultural-teaching skills, in contrast with Spanierman’s two-factor model. The teachers may have felt that understanding multicultural issues relevant to their teaching would help them to (a) implement a culturally responsive pedagogy and teaching strategies suited to the students’ cultural and ethnic diversity and (b) negotiate the sociopolitical and cultural realities of multicultural classrooms.

**Factor 3: multicultural-teaching relationships (cultural harmony).** The teachers’ responses to the items measuring this factor reflected their desire to establish strong, supportive relationships with racial- and ethnic-minority parents (item A15), to understand the various communication styles, backgrounds, and experiences of racial- and ethnic-minority students (item A28 and item A42), and thereby to give every student an equal opportunity for successful learning (item A22).

The teachers rated teaching relationships (cultural harmony) as the most important factor in the tripartite model of multicultural-teaching competency developed in this study. This emphasis on teaching relationships or cultural harmony was also observed in Hue & Kennedy’s (2014) qualitative study, contributing to a new definition of multiculturalism among Chinese teachers in Hong Kong, as described below.

When managing diversity in the classroom, the teachers [...] attempted to maintain fairness and sufficiency of instruction for both Chinese and ethnic minority students, and to keep relations harmonious between the majority and the minority classmates. As the common Chinese sayings suggest, “under the same principle of benevolence, all people should be treated equally” (一視同仁), and “people do not mind having nothing at all, but they do mind inequality” (不患貧而患不均). The principles of benevolence, sufficiency and equality underlying these sayings are rooted in Confucianism. (Hue and Kennedy, 2014)

To achieve an ethos of cultural harmony, interpersonal relationships between

classroom participants must be appropriately managed. According to Confucian principles, the teacher-student interaction is characterized by a hierarchical relationship between senior and junior (Bond & Hwang, 1986; King, 1981; King & Bond, 1985; Wright, 1962).

Teachers hold a senior position, and are thus responsible for directing their students, who hold a junior position. Teachers have the authority to determine the legitimacy of subject knowledge and students' social behaviour in the classroom. In contrast with the hierarchical construction of the teacher-student relationship in Confucian culture, however, relationships between students are viewed in terms of benevolence and fairness. School-teachers in Hong Kong still share this Confucian emphasis on harmonious interpersonal relationships, which underpins their understanding of multicultural teaching (Hue & Kennedy, 2014).

### **Demographic Patterns in Multicultural-Teaching Competency**

MANOVA was used to assess the effects of differences in demographic information, multicultural training, and years of teaching experience on the three dimensions of the model of multicultural-teaching competency (skills, knowledge, and relationships). Participants with no training in multicultural education made up 55.3% of the sample; 30.6% of the participants had received 1-15 hours of multicultural teaching; and only 14.1% had received more than 15 hours of multicultural training. Accordingly, we examined the differences between three groups of participants, labeled as follows: (a) no training, (b) 1-15 hours' training, and (c) more than 15 hours' training.

Years of teaching experience had no significant effect on any of the three factors. Training significantly affected factor 1, skills— $F(2, 279) = 9.79, p < .001$ —and factor 2, knowledge:  $F(2, 279) = 6.76$ . Training had no effect on factor 3, relationships. The results also showed that the more hours of training in multicultural teaching a teacher had received, the more skills and knowledge relevant to multicultural teaching he or she had acquired. This suggests that multicultural-teaching skills and knowledge can be improved by providing proper training in multicultural teaching. Although the multicultural-relationships factor received a similar score for each of the three levels of training, its rating was higher than that of the other two factors. This indicated that regardless of whether the teachers had received training, they considered it very important to build relationships with students from ethnically diverse backgrounds in both ethnic-minority and mixed classes. These results are consistent with previous findings (Spanierman et al., 2010), and provide evidence for the criterion validity of the translated version of the 14-item MTCS (MTCS-14; the Hong Kong version). Similar results were obtained for years of teaching. This demographic difference did not affect the factor scores; and regardless of the extent of their teaching experience, the teachers considered multicultural-teaching relationships to be the most important dimension of multicultural-teaching competency.

### **Research Implications**

#### **Tripartite Model of the MTCS-14 (Hong Kong version).**

Similar to Spanierman et al. (2010), who omitted the “awareness” dimension to give a two-factor model comprising only “skills” and “knowledge,” we did not find multicultural-teaching awareness to be a viable factor in the MTCS. Instead, the researchers developed a model assessing skills, knowledge, and relationships. The “awareness” factor was probably non-viable due to the absence of a multicultural-educational policy in Hong Kong, as well as a lack of professional teacher training in multicultural education. As a result, the teachers—

especially those with little training in multicultural teaching (Spanierman et al., 2010), and those who were strongly influenced by Confucian principles of harmonious interpersonal relationships and benevolence, fairness, and justice—focused on developing multicultural-teaching relationships rather than increasing their awareness of multiculturalism. They were also more concerned about developing the skills required to teach EMSs. In sum, the relationships factor explained more of the variance than the other two factors, skills and knowledge, in the tripartite MTCS developed in this study. It should also be noted that our tripartite model is more parsimonious than the two-factor model proposed by Spanierman et al. (2010), as the original 16-item measure has been reduced to a 14-item scale.

#### **Cultural Appropriateness of MTCS-14**

***Emic versus etic considerations during implementation of the MTCS.*** One of the concerns of this study is whether the MTCS-14 assesses emic factors (which arise from a specific culture) or etic factors (which are similar across cultures) (e.g., Berry, 1989). The teachers viewed multicultural-teaching relationships as the most important factor in the three-factor model. Such relationships constitute an emic factor, as the teachers viewed cultural harmony as key to maintaining fairness, providing sufficient instruction, and promoting multicultural teaching in both ethnic-minority and mixed classes. As the Confucian emphasis on fairness, justice, and equity remains strong among school-teachers in Hong Kong (Hue & Kennedy, 2014), the factor “multicultural-teaching relationships” is treated as culturally specific in the MTCS-14 (Hong Kong version).

The teachers viewed multicultural-teaching knowledge and multicultural-teaching skills as etic considerations, which they defined, respectively, as the knowledge of culturally responsive pedagogies and teaching strategies in multicultural classrooms, and the skills required to evaluate strategies to facilitate students’ academic achievement and personal growth and implement culturally responsive strategies for behavior management (Spanierman et al., 2010). These skills and knowledge provide a foundation for managing students from diverse ethnic backgrounds. They are considered etic due to their “recurrence” across cultures, despite potential cultural differences in their perceived meaning (Triandis, 1994). Both the skills factor and the knowledge factor were viewed as culturally universal in this study.

#### **Implications for Multicultural-Education Training.**

Three of the five items measuring the skills and knowledge factors scored lower than 4, indicating that the participants “slightly” agreed with the items. This suggests that Hong Kong teachers’ understanding of multicultural education is limited, probably due to the lack of a regional multicultural-education policy and the provision of little or no training in multicultural teaching (55.3% of the teachers surveyed had never received such training). We propose that Hong Kong teachers, especially those teaching ethnic-minority and mixed classes, should be trained not only to deploy culturally relevant teaching practices, as argued by Sleeter and Grant (2007), but to understand and incorporate into their teaching the sociopolitical and cultural realities of diverse racial and ethnic groups.

## **Future Directions for Consideration**

### **Future Research on the Validity of the MTCS (Hong Kong Version).**

Future researchers could investigate the concurrent validity of the MTCS, documenting correlations with established measures, to identify teachers' existing strengths and weaknesses in the area of multicultural-teaching competency. Two possible criterion measures are the MCI (Sodowsky et al., 1994), which comprises four factors (awareness, knowledge, skills, and relationships), and the MCKAS (Ponterotto et al., 2002), a two-factor scale that assesses knowledge and awareness. It will also be important to compare cross-informant ratings of teachers' multicultural-teaching practice, such as students' ratings, to establish validity (Nelson et al., 2012). A measure such as the Marlow-Crowe Social Desirability Scale—Short Form should also be used to account for potential social-desirability bias among the participating teachers, especially in research on social attitudes toward multicultural issues.

### **Further Investigation of the Role of Multicultural-Teaching Relationships in the Tripartite MTCS.**

Although the significance of multicultural-teaching skills and knowledge was confirmed in this study, future research needs to explore teachers' professional development needs to identify the skills required to teach both classes of "local" students and mixed classes. It is also necessary to generate a contextualized understanding of Hong Kong schools—multiethnic environments that lack multicultural awareness. In addition, more research is recommended to examine the influence of the interpersonal relationships between Chinese teachers and non-Chinese students and between Chinese and non-Chinese students, and cultural variations has the potential to guide school practitioners with insights into the establishment of harmonious and supportive relationships that engage all students in learning and create multicultural classroom environments.

## **Conclusions**

A tripartite model of the MTCS assessing skills, knowledge and relationships, was found to be well suited to our sample of Hong Kong teachers. The development of a Hong Kong version of the MTCS provides contextual and cultural insights for the region's teacher-education institutes into the development of effective multicultural-training programs for in-service and pre-service teachers. These insights will also benefit government policy makers seeking to develop effective multicultural-education policies. The emic definition of multicultural-teaching relationships (emphasizing cultural harmony) should receive further attention in research on the cultural factors that influence teacher-student relationships and students' engagement in the multiethnic classroom. In addition, more research should be conducted to explore the influence of different cultural beliefs relating to teaching and learning on teachers' multicultural-teaching practice. Awareness of these contextual and cultural variations should guide the application and adaptation of all multicultural-education models and approaches, thereby increasing the effectiveness and efficiency of multicultural teaching and ensuring that minority students are adequately included and supported.

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