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## **Behind Cultural Competence: The Role of Causal Attribution in Multicultural Teacher Education**

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*Abstract: In an attempt to bridge the gap between achievement motivation and multicultural teacher education, this study explored the relationship between causal attribution of cultural awareness and cultural competence among preservice teachers. Participants were 793 preservice teachers from two large public universities who reported their causal attributions of cultural awareness and their cultural competence. Canonical correlation analysis results showed two significant relationships between causal attribution and cultural competence. Personal control over the causes of cultural awareness was found to be positively related to praxis, i.e., behavioral outcome; whereas attributions to internal and stable causes were positively associated with knowledge as major components of cultural competence. The findings indicate the importance of addressing causal attribution and moving beyond negative emotions in enhancing preservice teachers' cultural competence in multicultural education. Implications for multicultural teacher education and future research directions are discussed.*

As a means to address the mismatch between the increasingly diverse student body and homogenous teaching force, multicultural education has become an important component of teacher preparation programs in the U.S. for nearly four decades. As early as 1970s, The National Council for Accreditation of Teacher Education (NCATE) defined multicultural education as “Preparation for the social, political, and economic realities that individuals experience in culturally diverse and complex human encounters” (1977, p. 4) and established it as a specific criterion to evaluate teacher preparation programs. Preservice teachers are anticipated to acquire cultural competence to successfully work with students from diverse backgrounds.

The conceptual background for cultural competence derives from a combination of counseling psychology and healthcare professions that have taken a lead in operationalizing and measuring this construct. Despite the unsettled controversy over the definitions of cultural

competence, studies and theories have consistently revealed two core components of this construct, namely, knowledge and praxis (e.g., National Center for Cultural Competence, 1998; NCATE; 2008; Sue, 1982; Yang & Montgomery, 2010). *Knowledge* refers to the amount and depth of multicultural and diversity knowledge necessary for preservice teachers to be culturally competent. Many researchers and theorists in multicultural education have repeatedly argued the importance of knowing and understanding multicultural and diversity issues illuminating the dire consequences of ignorance of diversity knowledge to teaching and learning (Banks, 2005; Diller, 2007; Howard, 2006; Nieto, 1992). According to these scholars, understanding racism, prejudice, and White privilege, knowing cultures and cultural differences, and being aware of stereotypes and biases are essential to cultural competence. *Praxis*, on the other hand, refers to the application of skills, strategies, and pedagogical practices to help teachers successfully work with students from diverse backgrounds. It covers a wide range of behavioral outcomes from culturally-responsive pedagogy (Cochran-Smith, 2004) to a repertoire of skills necessary for teachers to be prepared for meeting the educational needs of students from diverse backgrounds (NCATE, 2008).

Along with consensus on the two core components of cultural competence, there is a considerable agreement that cultural competence is a developmental process that grows over an extended period, requires a long-term commitment, and goes beyond cultural awareness (e.g., Bennett, 1993; Brach & Fraserirector, 2000; Denboba, 1997). Preservice teachers usually have more or less cultural awareness as a result of multiple factors such as increasing diversity, globalization, and multicultural courses. Cultural awareness necessitates recognizing the importance of cultural differences; whereas cultural competence is considered to be a higher level ability to work with people from different cultural backgrounds (Winkelman, 2005).

The role of motivation in developing cultural competence among teachers has become an increasingly important topic in multicultural education (e.g., Kouli & Papaioannou, 2008; May, 1994; Salili & Hoosain, 2007; Wlodkowski & Ginsberg, 1995). For example, in a multicultural physical education class, students with task orientation and class climate highlighting mastery goal orientations were found to have stronger sense of ethnic belonging and more success in acculturation (Kouli & Papaioannou, 2008) than their counterparts. As a dominant conception in motivation, attribution theory has been in full fledge and widely applied to a variety of fields such as academic achievement, sports performance, and school violence, etc. However, causal attribution in multicultural teacher education seems to be much less studied. Researchers argue from an interpersonal attributional stance that the major setbacks hindering preservice teachers' cultural competence include institutional hierarchy and bureaucracy, lack of time and power in the teaching profession, and lack of teachers of color (Fuller, 1992). However, the intrapersonal attribution is unknown and it remains unclear whether the reasons preservice teachers attribute

their cultural awareness relate to their efficacy beliefs in cultural competence.

While interpersonal attribution serves to examine how multicultural education experts or educators attribute preservice teachers' cultural awareness, intrapersonal attribution can help us understand how preservice teachers examine themselves regarding their cultural awareness. According to Weiner (2000), people are scientists trying to understand themselves and the environment and base their future behaviors on the knowledge derived from the causal attributions of their past performance. The way people make causal attributions serves as a motivational factor in guiding future behavioral reactions or outcomes. Attribution examines the cognitive explanations when observing an outcome and validates them by relating those explanations to observable characteristics of that individual. Once the attributions are made, they serve to predict affect and future outcome (Petri, 1991; Weiner, 2000). In multicultural education setting, preservice teachers may attribute their cultural awareness to various causes such as multicultural training, cross-cultural experiences, and friends from different cultures. The causal attributions preservice teachers make about their cultural awareness, according to Weiner's intrapersonal attribution theory (2000), will serve to predict preservice teachers' knowledge and praxis in multicultural and diversity issues in their prospective classrooms. However, whether this is true has not been investigated empirically in previous studies.

### **Theoretical Framework**

Weiner's intrapersonal attribution theory (2000) does not concern so much of the content of causal attribution as the pattern of accounting for the underlying properties or characteristics of a major cause on three dimensions: stability, controllability, and locus of causality. Causal stability refers to the duration of a cause. Some causes such as chance are perceived as temporary and changeable, whereas other causes such as talent are considered as stable and constant. For instance, preservice teachers may attribute their cultural awareness to stable causes such as intercultural marriage, friendship, or interest in other cultures, or unstable causes such as cross-cultural travel trips, an encounter with a stranger from a different culture, or an intense preparation for a test on multiculturalism. Locus of causality refers to the location of a cause either within or outside of a person. For example, ability, effort, mood, indifference are considered personal causes, whereas task difficulty, instructor quality, and luck are considered external sources of causality. In the case of causal attribution of cultural awareness, luck of a previous cross-cultural exposure apparently has an external locus. Finally, controllability refers to the extent a cause is subject to volitional alteration. For example, one can change causes such as effort, whereas other causes such as luck and aptitude cannot be willfully changed.

Controllability was further split into personal and external control, in that some cause can be controllable by others while uncontrollable by the person, and vice versa (McAuley, Duncan, & Russell, 1992). For example, if a preservice teacher ascribes his or her cultural awareness to the discovery learning method taught by the instructor, this cause could be under external but not personal control.

According to Weiner (2000), the major causal properties constitute two major determinants of motivation, namely, expectancy and value. Expectancy refers to the subjective chance of future success while value refers to the emotional consequences of an outcome. Stability is positively linked with expectancy, in that if a cause is considered stable, the same outcome will be anticipated again in the future. In this case, if a preservice teacher attributes his or her cultural awareness to a stable cause, he or she is likely to anticipate a steady increase in cultural awareness, which may eventually lead to high levels of cultural competence. Locus and controllability, on the other hand, relate to affective states or the value of the outcomes. Locus influences feelings of pride and self-esteem, and controllability jointly influences feelings of guilt or shame with locus of causality. Applying to the causal attribution of cultural awareness, it is expected that preservice teachers who consider the causes of their cultural awareness internal and controllable will experience feelings of pride and increments in self-esteem, positive emotions in the course of multicultural education for them to acquire cultural competence. And finally, according to Weiner (2000), expectancy of future outcomes, along with emotional reactions determines subsequent behaviors and future outcomes. However, it is unclear whether these theoretical relationships hold true in multicultural teacher education.

A growing body of research suggested a link between self-efficacy and causal attribution (e.g., Bond, Biddle, & Ntoumanis, 2001; Hsieh, 2004; Shell, Colvin, & Bruning, 1995). In a study of 500 undergraduates enrolled in a foreign language learning program, Hsieh (2004) investigated the participants' causal attributions and self-efficacy ratings upon receiving two-semester exam grades. The results indicated a significant positive correlation of self-efficacy with internal, personal, and stable attributions, and a negative correlation with external attributions. Students who made external and unstable attributions for success had lower self-efficacy beliefs than those who made internal or stable attributions. Students who made stable or external attributions for failure had lower self-efficacy compared to those who made unstable or internal attributions (Hsieh, 2004). As cultural competence is often evaluated through self-reported measures, it is self-efficacy rating in nature, in that it reflects preservice teachers' beliefs about their cultural competence instead of their actual cultural competence levels. Given the link found between causal attributions and self-efficacy, we hypothesized that preservice teachers who attribute their cultural awareness to inner, stable and controllable causes may have higher self-efficacy in cultural competence than those who make external, unstable, and

uncontrollable attributions. Figure 1 demonstrates our hypothesized conceptual model of the relationship between causal attributions of cultural awareness and cultural competence for preservice teachers.

The purpose of this study was to explore whether cultural competence among preservice teachers is affected by causal attributions of how they acquired cultural awareness, a starting point of cultural competence (Brach & Fraserirector, 2000; Campinha-Bacote, 2002; McPhatter, 1997). Preservice teachers may develop cultural awareness due to a variety of factors, such as cultural exposure, family background, cross-cultural friendships, multicultural education, and training workshops, etc (e.g., Ancis, 2000; Brown, 2004). Typical examples of positive causal attributions of cultural awareness include effort, intrinsic interest, continual learning, while negative attributions may be external NCATE standards for preservice teachers, chance of cultural exposure, or teacher certification tests. Examining the nature of preservice teachers' causal attribution of their cultural awareness and the relationship between their causal attribution and cultural competence may shed some light on multicultural teacher education from a attributional stance.

## **Method**

### **Participants**

Participants were 793 preservice teachers enrolled in teacher preparation programs in two large public universities. The makeup of the sample regarding gender and ethnicity was as follows: 80.1% female, 18.9% male, and 1% undisclosed, 83.4% Caucasian, 6.7% Native American, 2.1% Hispanic, 2.7% Black, non-Hispanic, 0.9% Asian American, 3.5% Biracial/Multiracial, 0.6% other, and 0.1% with missing information. The ages of the participants ranged from 19 to 60 years old, with 87.1% being between the ages of 19 and 25 and 1.1% not reporting their age. Nineteen majors were involved in the study, with 27.7% of the respondents from early childhood education, 31.5% from elementary education, and 35% from secondary education. The sample was comprised of 47.5% juniors and 39.2% seniors, with 13.2% indicating they are in their fifth year. Of the 793 eligible participants, 472 (59.5%) were from a comprehensive university and 321 (40.5%) were from a regional university.

## Measures

Two instruments were used in this study, both of which used Likert-like scales for preservice teachers to report causal attributions of cultural awareness and cultural competence.

### *Cultural Competence*

Cultural competence was assessed with the Multicultural Teaching Scale (MTS, Wayson, 1993) by asking participants to rate on a scale of 1 (little competence) to 6 (extreme competence) their confidence in successfully dealing with diversity issues in their future classrooms. Factor analyses of this scale in a recent study (Yang & Montgomery, 2010) produced 28 items comprising two subscales: Praxis and Knowledge. The MTS Praxis subscale consists of 17 questions that assess preservice teachers' competence in applying skills, strategies, and pedagogical practices that help them work with diverse students successfully and create an inclusive learning environment. Sample items under the Praxis subscale include: "help students examine their prejudices" and "plan instructional activities that reduce prejudice toward other cultural groups." The MTS Knowledge subscale is composed of 11 questions that assess the width and depth of preservice teachers' knowledge in multicultural and diversity issues in their future classrooms. Items such as "know ways in which various cultures contribute to our pluralistic society" and "know the history of minority groups in the United States" constitute the Knowledge subscale. For the sample in the present study, the internal consistency coefficients were Praxis:  $= .95$  and Knowledge:  $= .89$  and the overall MTS:  $= .96$ .

### *Causal Attribution*

Attribution of cultural awareness was assessed via The Revised Causal Dimension Scale (CDS ) (McAuley, Duncan, & Russell, 1992) for which participants rate the underlying property of the major causes of their cultural awareness. It has four subscales adapted from Weiner's attribution theory (1985, 1986): locus of causality, stability, personal control and external control. Controllability is split into two dimensions, namely, personal control and external control based on the argument that some cause can be controllable by others while uncontrollable by the person, and vice versa. The psychometric property of the revised scale showed improvement as well after the division. The locus of causality subscale assesses preservice teachers' perceptions of the major causes of their cultural awareness along the continuum of an

internal -external dimension. The stability subscale of the CDSII measures their attributions along the continuum of a stable-unstable dimension, the personal control subscale along the continuum of much personal control to little personal control, and the external control subscale measures preservice teachers' views on the amount of control other people have over the cause of a phenomenon along a continuum of high external control to low degree of external control. All the 12 items of CDS are on a 9-point Likert scale from 1 to 9 with 1 indicating extremely external locus of causality, unstable, not subject to external control, and not subject to personal control, and 9 indicating the other end of the extremity, with 3 items representing each subscale. Sample items under locus of causality subscale include "Is the cause something that reflects an aspect of yourself or an aspect of the situation" and "is the cause something inside of you or outside of you." Stability subscale includes items like "Is the cause something permanent or temporary" and "is the cause something stable over time or variable over time." Personal control subscale sample items are "is the cause something manageable by you or not manageable by you" and "is the cause something over which you have power or you have no power." And the external control subscale include items such as "is the cause something over which others have control or others have no control" and "is the cause something other people can regulate or other people cannot regulate", etc. Total scores are the sum of ratings for each item. The corresponding internal consistency statistics of the four subscales of CDS in the current study were: locus of causality:  $=.72$ ; external control:  $=.70$ ; internal control:  $=.74$ ; and stability:  $=.67$ , and the overall Cronbach's Alpha for CDS :  $=.71$ .

### **Procedure**

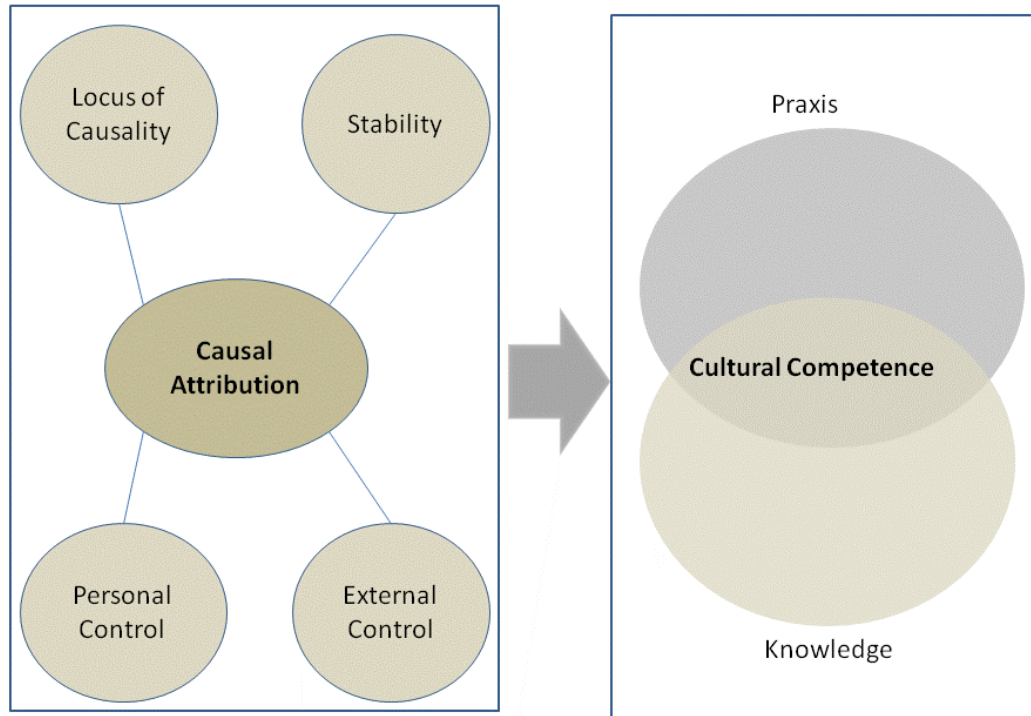
To counterbalance the potential effect of one instrument over the other, the order of the two scales was alternated (i.e., half of the participants completed the MTS before the CDSII). Participants were presented with an information sheet that detailed the purpose of the study and participant rights. Participants were instructed to fill out the survey that included the two instruments and the demographic information section.

### **Research Question and Data Analyses**

What is the maximum possible relationship between causal attribution of cultural awareness and cultural competence for preservice teachers? Perhaps the most straightforward procedure for answering this question is based on optimizing the correlation between the two sets



of variables underlying causal attribution and cultural competence via canonical correlation analysis (CCA). Designation of the variables includes two cultural competence variables and four causal attribution variables. Figure 1 pictorially describes the conceptual basis of both sets and the theoretical framework under study, where causal attribution variables served as predictor variables and cultural competence variables as criterion variables.



**Figure 1: Hypothesized Conceptual Model of Causal Attribution and Cultural Competence.**

## Results

We first examined the intercorrelations of the variables used to measure causal attributions and cultural competence. In CCA model, high intercorrelations among the variables are necessary to derive the variate by maximizing their correlation. Therefore, a correlation matrix along with standard deviations of the variables (Table 1) was presented to examine the correlation between and within each variable set and whether these correlations are statistically significant or not. Variable means are not presented in the table because of their irrelevance in

CCA (Fan & Konold, 2010). The significant zero-order correlations among the study variables warranted further analyses to disentangle the relationships more precisely.

	Cultural Competence		Causal Attribution			
	Praxis	Knowledge	Locus of Causality	Stability	Personal Control	External Control
Praxis	1.00					
Knowledge	.78**	1.00				
Locus of Causality	.16**	.18**	1.00			
Stability	.01	.05	.36**	1.00		
Personal Control	.26**	.22*	.53**	.11**	1.00	
External Control	.05	.11**	-.03	-.05	.05	1.00
Std	13.24	8.70	4.75	4.91	4.33	4.57

**Table 1: Summary Statistics of the Two Sets of Variables (N = 793)**

*Note.* The values of zero-order correlations among variables are presented here. \*\* $p < .01$ . \* $p < .05$  (2-tailed).

Std: standard deviation. Variable means are not presented here because they have no relevance in canonical correlation analysis (Fan & Konold, 2010).

### Canonical Results

A canonical correlation was performed to examine the degree of association between the four causal attribution variables and two cultural competence variables. The overall relationship between the attributions of cultural awareness and cultural competence was significant, Wilks'  $\lambda = .91$ ,  $F(8, 1392) = 7.99$ ,  $p < .001$ . The dimension reduction analysis indicated the significance of the second function of the correlation,  $F(3, 697) = 4.55$ ,  $p < .01$ . Function 1 emerged with a canonical correlation of .27 ( $R^2 = .07$ ,  $p < .001$ ), and the second function emerged with a canonical correlation of .14 ( $R^2 = .02$ ,  $p < .01$ ) (see Table 2).

		Function I			Function II			h <sup>2</sup>
		B	r	r <sup>2</sup>	B	r	r <sup>2</sup>	
Causal Attribution	x <sub>1</sub> -Locus of Causality	.09	.56	.31	.62	.44	.19	.51
	x <sub>2</sub> -Stabiity	.15	.17	.03	.75	.68	.46	.49
	x <sub>3</sub> -Personal Control	.94	.99	.98	-.51	-.11	.01	.99
	x <sub>4</sub> -External Control	-.07	.06	.00	.33	.47	.22	.22
	Adequacy			.33			.22	
	R <sub>c</sub>		.27*	.07**		.14*	.02**	
Cultural Competence	Adequacy			.85			.15	
	y <sub>1</sub> -Praxis	.81	.99	.98	-1.33	-.15	.02	1.00
	y <sub>2</sub> -Knowledge	.23	.85	.72	1.54	.52	.27	.99

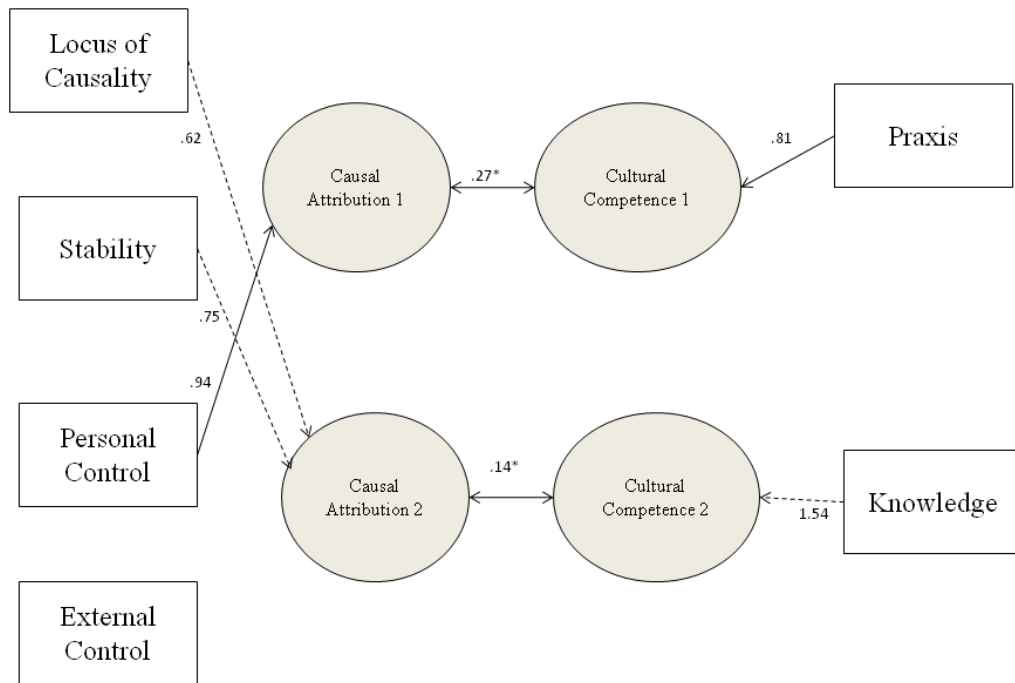
**Table 2: Canonical Correlation Analysis Results**

Notes. B- standardized coefficients. *r* - structure coefficients. *r*<sup>2</sup> - squared structure coefficients. R<sub>c</sub> - cannonical correlation coefficients. \*\* *p* < .001. \* *p* < .01. Adequacy-canonical adequacy coefficients. h<sup>2</sup> communality

Canonical loadings were used to examine the contribution of each variable to the variates. Both pattern and structural coefficients were used to interpret the vairates to prevent missing potentially important correlations of variables in a correlated factor model (Thompson, 1997). Loadings equal to or greater than .40 indicate a meaningful contribution to the multivariate relationship (Stevens, 2001). The magnitude of the weights represents their relative contribution to the variates. Based on the size of the weights, the order of contribution of criterion variables has been Praxis and Knowledge, and that of independent variables is personal control, stability, locus of causality, and external control.

The largest of the two canonical variates combines variables from attribution and cultural competence, linking personal control with praxis. Analysis of the first canonical variate (Function 1, see Table 2 & Figure 2) reveals that the attribution variable set with the highest canonical loading was personal control (*r* = .99), followed by locus of causality (*r* = .56), stability (*r* = .17), and external control (*r* = .06). The dramatic decrease in standardized canonical coefficients in comparison to structure coefficients suggested that locus of causality was relatively redundant in terms of unique relationship to the fist variate. The cultural competence variable set having the highest loading was praxis (*r* = .99), succeeded by knowledge (*r* = .85). Due to the high correlation between praxis and knowledge, the standardized canonical coefficient of knowledge (*r* = .23) on the first canonical variate was tremendously reduced. The first canonical function indicates a significant relationship between preservice teachers' causal attribution of personal control and their praxis in cultural competence. It suggests that preservice

teachers who attributed their cultural awareness to causes subject to personal control also perceived more competence in praxis.



**Figure 2: Graphic representation of the canonical correlation results**

*Note.* The values presented in the graph are canonical and standardized weights. Only significant relationships are depicted \*\*  $p < .001$ . \*  $p < .01$

The second canonical function (see Function II, Table 2 & Figure 2) was characterized by high positive loadings for stability of causal attributions of cultural awareness and a moderate positive loading on inner locus of causal attributions, and a moderate positive loading on knowledge. The second canonical variate links stability and locus of causality with knowledge. Low loadings for personal control ( $r = -.11$ ) and praxis ( $r = .02$ ) and low commonality for external control ( $h^2 = .22$ ) indicated that these variables did not meaningfully contribute to the relationship (Fan & Konold, 2010). Function 2 suggests that high stability and moderate inner locus of causality were significantly related to knowledge. These results suggest that preservice teachers who attributed cultural awareness to inner and stable causes reported more knowledge in cultural competence.

## Discussion

The study examined how preservice teachers' causal attributions of cultural awareness in terms of locus of causality, stability, personal control, and external control related to their cultural competence, specifically, knowledge and praxis. No known studies have been conducted to investigate the relationship between attribution and cultural competence, and it has not been clear whether Weiner's intrapersonal causal attribution theory (Weiner, 2000) applies to multicultural teacher education besides students' academic performance. The results provided support for the relationship between attribution and cultural competence. When we examine Functions 1 and 2 of the canonical correlations in concert, the impact of preservice teachers' causal attributions of cultural awareness on their cultural competence is apparent.

The canonical functions that included the causal attribution and cultural competence variables revealed a telling, complex, and unique picture of attributional influences on cultural competence for preservice teachers. Results indicate that when preservice teachers perceive a high degree of personal control in developing their cultural awareness, they feel more efficacious in executing culturally responsive pedagogy in their future multicultural classrooms. On the other hand, teachers who think their cultural awareness is a result of inner and stable causes feel more knowledgeable in multicultural and diversity issues, although it did not appear that they necessarily feel more competent in praxis, i.e., actively seeking culturally responsive behaviors in their pedagogy.

The significant relationship between personal control and praxis in cultural competence suggested a link between the amount of personal control regarding the major causes of preservice teachers' cultural awareness and their perceived competence in dealing with students from diverse backgrounds. The importance of personal control in decision making process is well supported by previous studies (Cardelle-Elawar, Irwin, & Lizarraga, 2007; Stevenson, 1996; Swaffar, 2001). For example, students who felt higher degree of personal control of career choice tend to make career choices according to their interest, whereas those with low personal control tend to make choices to meet the needs of the society for economic survival (Cardelle-Elawar et al., 2007). It makes sense that when preservice teachers feel a higher degree of personal control of their cultural awareness, they are more likely to enjoy building their cultural awareness and executing a culturally responsive pedagogy. When they feel in control in an increasingly diverse society, they tend to be more motivated to take actions and confront prejudices and discriminations as future teachers. On the contrary, if they feel powerless, they are less likely to actively advocate multiculturalism in their future classroom. Unfortunately, as the prevalence of authoritarian and coercive forms of social control in contemporary school

system (Darling-Hammond, 1996), it is undoubtedly a challenge for preservice teachers to feel high degrees of personal control.

The second relationship between causal attribution and cultural competence indicates that internal and stable causes of cultural awareness seem more conducive to preservice teachers' acquisition of multicultural and diversity knowledge. This finding is somehow parallel to a previous study that revealed a positive relationship between locus of causal attribution and observed multicultural competence (Worthington, Mobley, Franks, & Tan, 2001). Weiner et al. (1971) maintained in their attributional analysis that whatever results attributed to stable causes increases subsequent expectancies of the same results in the future more than changeable causes. Additionally, success (cultural awareness in this case) attributed to inner causes boost esteem-related emotions (Weiner, 2000). A possible explanation of this is that preservice teachers who attributed cultural awareness to inner and stable causes may have developed more pride from their previous intercultural experience, hence more motivated and successful in learning about multicultural and diversity issues and accumulating multicultural knowledge.

From the two significant functions, it appears that inner and stable causes of cultural awareness such as personal aspirations and interests may help preservice teachers acquire knowledge about cultural and diversity issues, but what might help more with their actual behavioral outcomes including skills, strategies, and culturally responsive instructions is to empower them so that they feel a high degree of personal control. One way to achieve this is perhaps to develop a sense of human agency and autonomy in them so that they will be more motivated to execute culturally sensitive pedagogy and act as agents of change (Zuber-Skerritt, 2001).

These findings are intriguing from different vantage points. First, preservice teachers who think their cultural awareness results from more inner and stable causes feel more knowledgeable about multiculturalism. Unfortunately, stable and inner drive alone did not seem to promote their actual behavioral outcome in actively dealing with diversity and multicultural issues. Rather, the research results suggest that a perceived high degree of personal control regarding the cause of cultural awareness is critical in bringing about praxis, that is, active application of multicultural and diversity knowledge to human interactions in the future classrooms. Extensive research reported the importance of personal control in positive reactions toward the environment. For example, Crocker and Major (1994) held that individuals who attributed their stigmatization condition to personally controllable causes are less likely to blame stigma-associated negative outcomes and more likely to assume personal responsibility. In analyzing factors that may impact causal attribution of stigmatization, Padilla and Perez (2003) argued that stigmatized individuals lacking in perceived controllability of the stigma itself were more likely to attribute negative outcomes to prejudice and discrimination. Based on the previous research

and the results of the current study, it seems that perceived personal control in causal attribution of cultural awareness plays a key role in predicting future behavioral outcome that demonstrates cultural competence among preservice teachers.

The results of this study support the important role of causal attributions in multicultural teacher education. The study results suggest that perhaps empowering preservice teachers and instilling a sense of autonomy and human agency in the course of multicultural education are more effective than the mere accumulation of multicultural and diversity knowledge in encouraging culturally competent behavioral outcome. Preservice teachers need to have the inner drive that remains constant over time to enjoy the process of multicultural learning and acquire knowledge on multicultural and diversity issues. To transform preservice teachers into activists in multicultural education, teacher educators need to provide them with an encouraging environment where they feel a strong sense of personal control.

Previous studies identified many institutional and personal barriers in the process of multicultural teacher education (for example, Collinson & Cook, 2000; Fuller, 1992; Wang, 2008). The significant relationship between preservice teacher's attribution and cultural competence suggests that when preservice teachers feel they are in charge, they will be more likely to act as agents of change and practice culturally responsive pedagogy. To ensure their behavior outcomes demonstrating the kind of cultural competence as expected from multicultural education, preservice teachers need to have a positive causal attribution where they feel in control.

Since preservice teachers' causal attributions seem to be a determining factor in how they approach and interpret multicultural education, it may be helpful for teacher educators to guide them toward more positive causal attributions and adjust their attributional thinking in a more constructive fashion. After a broad review of 15 attributional retraining studies, Forsterling (1985) concluded that attributional training has been fairly successful in increasing persistence and performance. This is further proved by many other reports (Borkowski, Weyhing, & Carr, 1988; Furnham, 2003; Luzzo, James, & Luna, 1996; Perry & Penner, 1990) that adaptive causal attribution is trainable. Given the significant relationships between preservice teachers' attribution and cultural competence, teacher educators may provide training programs to identify preservice teachers individual causal attributions, distinguish between instrumental and maladaptive attributions, and provide attributional retaining so as to eventually promoting the effectiveness of multicultural education. From the study results, one way of achieving this is to cultivate a strong sense of personal control and autonomy in preservice teachers despite the setbacks in multiculturalism such as institutional barrier, social control, etc.

Previous research has studied at length about the negative emotions preservice teachers usually experience in the journey of multicultural education. Given the study results of the

important role of causal attribution in esteem-related emotions, perhaps it's time for teacher educators to find the attributional roots of these emotions rather than addressing the symptoms per se. Put it another way, the solution to helping preservice teachers bypass these negative or even destructive emotions may not lie in strategies of how to comfort them, but training opportunities to bring their maladaptive causal attributions to awareness and direct them to more functional attributions. Such efforts may be more effective in improving preservice teachers' cultural competence and the effectiveness of multicultural teacher education.

### **Limitations and Future Directions**

The design of this study carried some methodological strengths and weaknesses that should be taken into account when interpreting the data. Despite the relatively large sample size, only a portion of preservice teachers from two large public institutions volunteered to participate in the study, limiting the findings by convenience sampling. Second, the issue of self-selection bias applies to the current study. It is likely that students at both institutions who chose to participate in the survey were more driven and invested in multicultural education than those who did not. Thus, the study results may have been compromised by the restriction of range in the sample. Third, despite the statistical significance of the study results, the effect size appears relatively small. More studies are needed to replicate to different populations to examine the effects of preservice teachers' causal attribution of their cultural awareness on cultural competence.

The findings of the current study shed light on alternative ways of approaching and understanding multicultural education. As indicated by the existing research, there is a lack of motivational approach to multicultural teacher education. In addition to deepening our understanding of the relationship between attribution and cultural competence, researchers should continue to explore the association between cultural competence and other motivational variables. Specifically, researchers should examine whether and how self-theory, expectancy-value theory, and goal orientation theory and the like are related to preservice teachers' acquisition of cultural competence. Finally, despite the argument of attribution impacting future outcome in the attribution theory, an essential question facing attribution and multicultural education researchers is the issues of what comes first-attribution or cultural competence? Future research should endeavor to determine the causal-comparative effect of causal attribution and attribution retraining on cultural competence through experimental designs.



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