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Construct And Assess Emotional Competency for Taiwanese Young Children

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ABSTRACT: *Emotion has been one of the six curriculum areas in Taiwan since August 30,2012.However,few studies have examined the development and assessment of young Taiwanese children's emotional competency.This studydeveloped a scale, called theEmotional Competency Rating Scalefor Young Children (ECRSYC) in Taiwan,and analyzed the developmental norms of these children. Thestudy adopted across-sectional approach and selected1200 children aged 4–6years byusingstratified random sampling. Data analysis methods included principal component analysis,descriptive analysis, t-testing, ANOVA analysis,Post hoc comparisons, and multipleregression analysis. Four factors comprisinga total of 40 competencies were identified: understandingone'semotions, understandingothers'emotions, adjustingone's emotions,and inspiring oneself. The resultsrevealedwhich children weremost familiarwith their ownemotions. Girls were significantly more adeptthan boys across the four subscales. Older children's emotional competency was significantly greaterthan that of youngerchildren. Childrenin Central Taiwanwere significantly moreunderstanding of others' emotions and were the most adept atinspiring themselves. Age and gender werepredictivefactors. Inconclusion, the ECRSYCexhibitedhigh validity and reliability. The practical implicationsof thisstudy are inhelpingteachers evaluatechildren's emotions. Afollow-up study willdevelop an alternative instrument withwhich children's emotions can be measured by examining how they manipulatee-blocks (i.e., SIFTEOcubes).*

I. INTRODUCTION

The Significance Of The Present Study

Wei(2007) found thata persontends not to have impulsive behaviorwhen oneis aware of one'semotion and uses adequate emotional expression and adjustment. Wei (2007) argued that providing timely assistance and counseling in accordance with children's development of emotional competence can help them develop emotional competence smoothly.Related studies are rare on analyzingchildren's emotional competencewitha standardizedscale. Educational personnel have fewempirical studies to know whether the emotional competence development of children in Taiwan differs according to variousdemographicvariables as well as the relationship between the variables. Thestudy adopted across-sectional approach and selected1200 children aged 4–6years byusingstratified random sampling.The ultimate goals are to develop the ECRSYCand to analyze thedevelopmental norms of these children.

Emotional Intelligence

Salovey and Mayer (1990)defined emotional intelligence(EI) as individual people'sability to be aware of theirand other people's emotionand to further cope with and use the emotion to facilitate their thinking and action. Goleman (1998) proposed an intelligence frameworkencompassing various emotional competences, which were divided into two categories, namely personal competence involving self-awareness, self-regulation, and inspiring oneselfand social competence involving empathyand social skills. Accordingly, EI signifies individual people's awareness of their and other people's emotion and their capacityto adequately regulate and manage emotion. Mayer 2 and Salovey (1997) examined thetheoretical frameworkproposed in 1990and found that EI only focuses on the perception and adjustment of emotion. Thus, they proposed new definitionthat EI comprises the capabilities to express, understand, and adjust emotion. Weisinger (1998) contended that EI leads people's thinking and behavior and facilitates personal development and interaction with others. In short, proper emotion management helpsindividual people to solve daily-life problems timely. People with high EI are able toinspirethemselves and others, manage interpersonal relationship, solve confrontation and conflict, and further enhance their thinking ability.

MeasurementFrameWork OfEmotionalCompetence

Themeasurement framework of emotional competence foryoung childrencovers four aspects of emotional competence i.e.understandingone's emotions, understandingothers' emotions,expressing one's emotions, and adjustingone's emotions(Hyson, 2003).Itis similar to that used by De Beauport and Diaz (1996), Fukunishi and Wise (2006), Rieffeetal. (2007), Wang (1998), Chen and Hsieh (2007), and Hsieh (2008)to measure young children's emotional management competence. For pilot study, the framework for measuring children's emotional competence development comprised six aspects, namely understandingone's emotions, understandingothers' emotions,expressing one's emotions, adjustingone's emotions, interpersonal relationship management, and inspiring oneself.

II. METHOD AND MATERIALS

Pilot Study

This study performed apilot studyon emotional competencewith 240 children aged 4–6yearsselected bystratified random samplingin Taipei City and New Taipei City. The questionnaire comprised six subscales with 72 itemsusing five-point Likert scale. Teachersselectedthe proficiency level of emotionalcompetencefor each child.

Factor analysis

Factor analysis was conductedusing SPSS/15.0 for windows according to the result of the pilot study. Principal componentanalysis was performed, followed by orthogonal rotation using varimax; items with low commonalities were eliminated, and common factors were extracted. Regarding the result of factor analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) was 0.951;the cumulative explained variance for the four extracted principal components was 70.128%. Finally, four factors comprisinga total of 40 competencies were identified: understandingone's emotions, understandingothers' emotions, adjustingone's emotions,and inspiring oneself.

Reliability analysis

The Cronbach α for foursubscales was 0.94, 0.95, 0.93, and 0.95. The Cronbachα for the whole scale was 0.98that indicateshigh internal consistency. Overall, the ECRSYCexhibitedhigh validity and reliability.

Nationwide stratified random sampling

For generalization, the study adopted across-sectional approachby using nationwide stratified random sampling. An ideal samplesize was calculated by the following equationunder the confidence level of 95% with ± 3% margin of error(Saunders, Lewis andThornhill, 2008; Hung andHsieh, 2002):

P= .5; N= 407,838; α=.025; d=.03; z.025=1.96

$$n \geqq 1.962 \times N \times P(1-P) / [(N-1) \times .032 + 1.962 \times P(1-P)]$$

Consequently, the ideal and effectivesample size was 1064. To considerthe invalid questionnaires, this study selected1200 children aged 4–6yearsacross country.

III. RESULTS

This section presents the empirical analysis result to determine the differencesof emotional competence among young children with variousdemographicvariables and the prediction of emotional competence from the demographicvariables. This study delivered 1200questionnaires and retrieved 1196 ones; the response rate was 99.67%. The number of valid questionnaires was 1070,the response rate of which was 89.17%.

Developmental Norm OfEmotional Competence For Children Aged 4–6 Years In Taiwan

The average age ofemotional competency was between 4.9 and 5.3 in four subscales. The resultsrevealedwhich children were most familiarwith their ownemotions. Girls were significantly more adeptthan boys across the four subscales. Older children's emotional competency was significantly greaterthan that of youngerchildren. Childrenin Central Taiwanwere significantly moreunderstanding of others' emotions and were the most adept atinspiring themselves. Age and gender werepredictivefactors.

DifferencesOfEmotional Competence Between Children With Different Genders

This study conducted t-test and found that girls and boys were significantly differentinunderstandingone's emotions, understandingothers' emotions, adjustingone's emotions,and inspiring oneself. Girls hadsignificanthigher scores in all of fouraspects than boys; the *t* values were at the level of significance of .05, .01, and .001.

DifferencesOfEmotional Competence Among Children With Various Ages

ANOVA and multiple comparisons were performed on children with various ages. The research outcome found that the scores for all of fouraspects significantly differed among children in dissimilar age groups. Subsequently, Scheffe's method was adopted for post-hoc comparison, and the result was as Table1.

Table 1. Differencesof emotional competence among children in various age groups**Aspect**	**Age groups**	**N**	**M**	**SD**	**ANOVA**	**Post-hoc comparison (Scheffe')**
Source of variation	**Sum of square of deviation from the mean (SS)**	**Degree of freedom (df)**	**Mean square**	***F***		
understanding one's emotions	(1)4−4.5years	238	3.84	.76	Between	36.13	3	12.04	19.22***	(4)>(1) (4)>(2) (4)>(3)
(2)4.5−5years	257	3.99	.87	Within	667.98	1066	.63		
(3)5−5.5years	286	4.02	.79	Total	704.12	1069			
(4)5.5−6years	289	4.34	.75						
understanding others' emotions	(1)4−4.5years	238	3.57	.90	Between	61.38	3	20.46	25.95***	(4) > (3) >(1) (4)>(2)
(2)4.5−5years	257	3.77	.96	Within	840.52	1066	.79		
(3)5−5.5years	286	3.81	.90	Total	901.90	1069			
(4)5.5−6years	289	4.22	.79						
adjusting one's emotions	(1)4−4.5years	238	3.42	.79	Between	72.55	3	24.18	39.54***	(3)>(2) (4)>(1) (4)>(2) (4) > (3) >(1)
(2)4.5−5years	257	3.60	.84	Within	651.88	1066	.61		
(3)5−5.5years	286	3.82	.75	Total	724.42	1069			
(4)5.5−6years	289	4.12	.75						
inspiring oneself	(1)4−4.5years	238	3.50	.88	Between	48.03	3	16.01	19.47***	(4)>(1) (4) > (2) >(1) (4)>(3)
(2)4.5−5years	257	3.78	.94	Within	876.80	1066	.82		
(3)5−5.5years	286	3.67	.96	Total	924.83	1069			
(4)5.5−6years	289	4.08	.85						
Total scale	(1)4−4.5years	238	3.58	.74	Between	51.84	3	17.28	29.89***	(4)>(1) (4) > (2) >(1) (4) > (3) >(1)
(2)4.5−5years	257	3.78	.82	Within	616.17	1066	.58		
(3)5−5.5years	286	3.83	.77	Total	668.00	1069			
(4)5.5−6years	289	4.19	.71						

The predictive ability of the demographicvariables for the aspect of understanding of others' motionswas examined. The demographicvariables had significant predictive effect on children's emotional competence of understanding of others' emotions($F = 14.44$; $p < .001$). The t values indicate that variables of gender 1, age 1, age 2, 5 age 3, and region 1(north/central)all achievedthe level of significance. Specifically, girls had a significantly higher score of understanding of others' emotionsthan boys ($p < .01$). Concerning the dummy variables of age1 (4−4.5years/4.5−5years), age 2 (4−4.5years/5−5.5years), and age 3 (4−4.5years/5.5−6years), children aged 4.5−5, 5−5.5, and 5.5−6yearshad a significantly higher score of understanding other people's emotion than children aged 4−4.5years($p < .05$, $p < .01$,$p < .001$). The dummy variable of region 1 was also significant ($p < .01$); children in central region had a significantly higher score of understanding other people's emotion than children in the northernregion.

The predictive ability of the demographicvariables for the aspect of adjustingone's emotionswas examined. The demographicvariables had significant predictive effect on children's competence of adjustingone's emotions($F = 20.21$; $p < .001$). The t values indicate that variables of gender 1, age 1, age 2, and age 3 all achieved the level of significance. Specifically, regarding gender 1 (male/female), girls had a

significantly higher score of adjustingone's emotionsthan boys (p <.001). Concerning age1 (4−4.5years/4.5−5years), age 2 (4−4.5years/5−5.5years), and age 3 (4−4.5years/5.5−6years), children aged 4.5−5, 5−5.5, and 5.5−6yearshad a significantly higher score of adjustingone's emotionsthan children aged 4−4.5 years(p <.05, p < .001).

The predictive ability of the demographicvariables for the aspect of inspiring oneselfwas analyzed. The demographicvariables had significant predictive effect on children's emotional competence of inspiring oneself(F = 10.78; p <.001). The t values indicate that variables of gender 1, age 1, age 2, age 3, and region 1 all achieved the level of significance. Regarding gender 1 (male/female), girls had a significantly higher score of inspiring oneselfthan boys (p <.01). Concerning age1 (4−4.5years/4.5−5years), age 2 (4−4.5years/5−5.5years), and age 3 (4−4.5years/5.5−6years), children aged 4.5−5, 5−5.5, and 5.5−6yearshad a significantly higher score of inspiring oneselfthan children aged 4−4.5 years(p <.05, p < .01,p < .001). Finally,the variable ofregion 1 was also significant; children in the Central Taiwanhad a significantly higher score of inspiring oneselfthan children in theNorthernTaiwan(p <.01).

IV. DISCUSSION

Contributions ToPromoting EI

The existing domestic and international studies have not provided a standardized tool to assess 4–6-year-oldchildren's emotional competence(Hsu, Liaoand Yu, 2005). This study developed thestandardized ECRSYCfor children aged 4−6 yearswithsatisfactory reliability and validity.Itcan solve such deficiency andprepare children'sdisadvantagedemotional competencefor advantages EI(Gardner, 1983).

Gender differences

Both t-test and multiple regression analysis revealed that girls were significantly more adeptthan boys across the four subscales.Generally, girls are relatively gentle and careful and tend tocalm their mind and be empathetic to other's feelings; instead, boys are relatively active and outgoing(Hyson, 2006). Therefore, girls tend to have stable development of emotional competence.

Age differences

Children in various age groups had significantly different scores in all aspects of emotional competence.The posthoc comparisonswereperformed using Scheffe's method, and the result showed that children in the oldest age group (5.5−6 years) were significantly more proficient at understandingone's emotions, understandingothers' emotions, adjustingone's emotions,and inspiring oneselfthan children at younger ages. By comparison, children in 6 the youngest age group (4−4.5 years)had significantly lower level of proficiency in emotional competence than older children. Consequently, children's development of emotional competence becamegreater with their agesincreasing. This result can reflect to the previous related study (Wei, 2007).

Region Differences

The differential analysis revealed that children in dissimilar regions had significantlydifferent scores of understandingothers' emotionsand inspiring oneself. The post-hoc comparison conducted using Scheffe's method showed that children in Central Taiwanwere significantly more proficient at understandingothers' emotionsand inspiring oneself than those in the NorthernTaiwan. Moreover, the level of proficiency in understandingothers' emotionsand inspiring oneself for children in the NorthernTaiwanwas lower than that for children in other regions, and in particular, was significantly lower than that for children in the Central Taiwan. This is possibly because in NorthernTaiwan, most parents are busy with work and spend less time on interacting with their children; thus, children in the NorthernTaiwan had fewer opportunities to learn, resulting in their weak ability of understandingothers'emotionsthan children in other regions. Additionally, children in theNorthernTaiwanmostly have a relatively wealthy life; their parents have arranged all daily life matters properly. In other words, they have few opportunities to experience frustrations. Thus, compared with children in other regions, they had relatively weak inspiring oneself ability.

The Emotional Competence Of 4−6-Year-Old Children In Taiwan Fluctuated

This study constructed a developmental norm of young children's emotional competence according to the result of emotional competence assessment conducted on 1070 children aged 4−6 years inTaiwan. The children were categorized according to gender (male and female) and age (4−4.5, 4.5−5, 5−5.5, and 5.5−6 years). The result revealed that regardless of gender difference, children's emotional competence increased as their age increased. However, the average age of boys who were "very unproficient" and "unproficient" at adjustingone's emotionswas 4.9 and 4.8 years old, respectively. Additionally, the averageage of girls who were

"very unproficient" and "unproficient" at understandingone's emotionswas 5.0 and 4.9 years old, respectively. Therefore, although in general 4−6-year-old children's emotional competence increased with their age, the level of emotional competence was still unstable and may be affected by some uncertain factors.

V. CONCLUSION

The standardizedYCECRS provided developmental normwithsatisfactory reliability and validity. It helped teachers to understand the development status of children's emotional competence of children.Findings indicated that age and gender werepredictivefactors.Older children's emotional competency was significantly greaterthan that of youngerchildren.Children aged 5.5−6 years were significantly more proficient at fouraspects of emotional competence than children in younger age groups. Girls were significantly more adeptthan boys across the four subscales.Children in Central Taiwan were more proficient at understandingothers' emotionsand inspiring oneself than children in Northern Taiwan.

From the perspective ofteaching practice,teacherscan applythe YCECRSin assessingthe emotional competence of 4−6-year-old children to understand the development status andprovide individualizedteaching and counseling. Schools can also use the YCECRSas a basis for offering diverse courses, thereby implementing the 7 emotional education effectively. Afollow-up study candevelop an alternative instrument withwhich children's emotions can be measured by examining how they manipulatee-blocks (i.e., SIFTEOcubes).

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