Exploration of the Development of Children's Empathy

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Empathy is an important social skill. It is believed to play an essential role in socio-emotional and moral development. The current study aimed to explore empathy development during childhood especially among students in the primary and middle schools located in Southern Vietnam. Bryant's Empathy Index for children and adolescents was administrated on 403 children, including 210 boys and 193 girls. The results showed that there was no significant difference between boys and girls in affective empathy. The results further indicated that there is a significant grade difference on affective empathy with the fourth-grade students being placed higher than those of the second and the sixth grades. A separate analysis was conducted for each of the dependent variables. It was found that the fourth graders were significantly higher than the second and the sixth graders on Understanding Feelings, Feelings of Sadness and Bryant's Empathy Index respectively. The result also showed that the Vietnamese version of Bryant's Empathy Index has acceptable reliability and can be used for future research.

KEYWORDS: Children's Empathy, Grade, Vietnamese Children

INTRODUCTION

Being a responsible and helpful community member at school not only requires knowledge, but also a certain set of emotional skills, which entails empathy. Empathy is defined as the ability to perceive and understand other people's emotions and to react appropriately (Leiberg & Anders, 2006, p. 419). Empathy is thought to comprise of two main components i.e. cognitive

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empathy and emotional (or affective) empathy (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004). Studies of empathy are well documented, and it is also well acknowledged that empathy varies by age and gender. Several studies suggest that empathy increases with age in adolescence (Allemand, Steiger, & Fend, 2015; Litvack-Miller, McDougall, & Romney, 1997; O'brien, Konrath, Grühn, & Hagen, 2012). Litvack-Miller et al. (1997) found that older children showed more empathic concern than younger children Allemand et al. (2015) found that there is an increase in empathy as preadolescents enter the periods of middle and late adolescence. O'brien et al. (2012) had found higher levels of cognitive and affective empathy in middle-aged adults than in either young or old adults. On the other hand, some authors have found that empathy decreased with age (DiLalla, Hull, & Dorsey, 2004; Grühn, Rebucal, Diehl, Lumley, & Labouvie-Vief, 2008; Williford, Boulton, & Jenson, 2014). DiLalla et al. (2004) found that older age groups had lower empathy scores than younger age groups. Grühn et al. (2008) also found that older adults report lower empathy than younger adults. Williford et al. (2014) in their study found that students transitioning to middle school show evidence of declines in cognitive empathy. However, another research found that there is no direct correlation in the sample between age and empathy (Adams, Schvaneveldt, & Jenson, 1979; Francis & Pearson, 1987). A cross-sectional study found no age differences (Adams et al., 1979). One further study found that there was no direct correlation in the sample between age and empathy (Francis & Pearson, 1987).

Although children's empathy is not a new topic, there are still a limited number of studies done in Vietnam, especially for Vietnamese children. The application of such scale in measuring empathy in Vietnamese children is also still limited. To fill this gap, this research was conducted to explore children's empathy in Vietnam. The aim of the current research was to explore empathy development during childhood. The research examined empathy among students in the primary and middle school located in Southern Vietnam. In view of the basic aim of the research, the following problem has been set:

A 3×2 factorial design was used. The independent variables were two children characteristics i.e. grades (2, 4 and 6), and gender (boy and girl). Three dependent variables were measured i.e. Understanding Feelings, Feeling of Sadness, and Tearful Reaction.

HYPOTHESES FOR THE STUDY

The following null hypotheses were established for the study

Ho1 (main effect): There is no significant difference between the group of boys and girls when they are compared simultaneously on the Understanding

Feelings, Feeling of Sadness, and Tearful Reaction.

Ho2 (main effect): There is no significant difference between grade two, grade four and grade six children when they are compared simultaneously on the Understanding Feelings, Feeling of Sadness, and Tearful Reaction.

Ho3 (interaction effect): There is no significant interaction between gender and grades when they are compared simultaneously on the Understanding Feelings, Feeling of Sadness, and Tearful Reaction.

SAMPLE OF THE STUDY

The research participants were 403 Vietnamese children, including 210 boys (34 from grade 2, 76 from grade 4 and 100 from grade 6) and 193 girls (57 from grade 2, 53 from grade 4 and 83 from grade 6). Participants were selected randomly from students of 11 primary and middle schools located in southern Vietnam. All participants provided informed consent after receiving an explanation of the purpose of the research. The research was approved by the ethics committee of the National Chung Cheng University. There were more boys (52.1%) than girls (47.9%) among the 403 children who were surveyed. Of these, 220 were primary school students, and 183 were middle school students. Table 1 shows the distribution of participants in the Grade by gender groups.

Table 1

Number of Participants in Grade by Gender Groups.

Grade	GenderGroup		
	Boy	Girl	Total
Grade 2	34	57	91
Grade 4	76	53	129
Grade 6	100	83	183

TOOL USED IN THE STUDY

Participants were asked to complete the Vietnamese versions of the Bryant's Empathy Index (BEI) for children and adolescents based on the original , a 22-item questionnaire for measure of dispositional affective empathy. The BEI consists of three subscales: Understanding Feelings (UF), Feelings of Sadness (FS), and Tearful Reactions (TR). The 22 items of BEI were translated into Vietnamese by two bilingual researchers who were both familiar with the construct being assessed. For one of them, the first language was Vietnamese, and for the other the first language was English. Forward and backward translation procedures were used. The same sequence of items was maintained in the Vietnamese translation of the index. All participants were instructed to read the questions carefully and choose the responses that best described themselves. The BEI consists of 22 questions administered to the entire class at once. Bryant scored items dichotomously (1 or 0 for yes or no, true or false). Scale reliability estimates, which ranged from 0.54 for the first graders to 0.68 for the fourth graders, and 0.79 for the seventh graders .

RESULTS OF THE STUDY

Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS 22.0). Descriptive statistics were used to analyse the data collected. A two-way MANOVA was performed with two independent variables (gender and grade) and subscales of the BEI as dependent variables. The average item means, average standard deviation, F values and effect sizes from MANOVA were calculated for each of the scales of the BEI. These analyses were used to investigate differences in understanding feelings, feelings of sadness, and tearful reactions of primary and middle students according to grade level, and gender.

The internal consistency reliability (Cronbach's alpha) estimate for this sample was 0.38, a value that is low but still usually considered sufficient for a questionnaire (Bowling, 2014) . According to the norms from the BEI (Bryant, 1982), the participants scored in the average range on the empathy scale. The mean score for the sample on the BEI (total score) was 0.48 (SD = 0.13). The mean score for the UF subscale was 0.40 (SD = 0.19) and the mean score on the FS subscale was 0.65 (SD = 0.25). The mean score on the TR subscale was 0.45 (SD = 0.21). Table 2 presents descriptive statistics of dependent variables including BEI, UF, FS and TR results by gender and grade groups.

The null hypotheses were tested using a two-way multivariate analysis of variance (MANOVA). To use MANOVA, the multiple dependent variables should be related to each other at a low to moderate level (Pallant, 2016) . More specifically, high correlation (0.50 to 1) among dependent variables shows multicollinearity and small to medium correlation (±0.10 to ±0.49) among dependent variables show singularity. Table 3 reveals that all values were more than -0.04 which provides controlling singularity assumption. Besides, stated that correlations around 0.80 or 0.90 cause violation of multicollinearity assumption. Since all values were under 0.80, multicollinearity assumption was also checked.

Table 2

Summary of Mean (M) and Standard Deviation (SD) of BEI Questionnaire.

Gender	Grade Group			
	Grade 2	Grade 4	Grade 6	Combined
Boy(N)	**34**	**76**	100	**210**
BEI				
M	0.46	0.54	0.45	0.49
SD	0.16	0.10	0.12	0.13
UF				
M	0.37	0.46	0.42	0.42
SD	0.19	0.18	0.19	0.19
FS				
M	0.63	0.76	0.56	0.64
SD	0.29	0.20	0.26	0.26
TR				
M	0.44	0.47	0.39	0.43
SD	0.23	0.18	0.22	0.21
Girl(N)	**57**	**53**	**83**	**193**
BEI				
M	0.49	0.52	0.45	0.48
SD	0.16	0.11	0.10	0.12
UF				
M	0.37	0.42	0.33	0.37
SD	0.23	0.18	0.15	0.19
FS				
M	0.70	0.70	0.60	0.66
SD	0.27	0.23	0.22	0.24
TR				
M	0.44	0.49	0.47	0.47
SD	0.22	0.18	0.23	0.21

Table 3

Correlation Matrix.

	BEI	UF	FS	TR
BEI	1	0.56**	0.60**	0.65**
UF	-	1	-0.11*	-0.04
FS	-	-	1	0.25**
TR	-	-	-	1

** Correlation is significant at the .01 level (2 -tailed)
* Correlation is significant at the .05 level (2 tailed)

The MANOVA is robust to violations of homogeneity of variance/covariance matrices if the sizes of groups are nearly equal or if the size of the largest group is less than about 1.5 times the size of the smallest group (Leech, Barrett, & Morgan, 2005). Although the largest group in this research (N=100) was about 2.94 times larger than the smallest group (N=34), the multivariate homogeneity of covariance matrices tested with Box's M test revealed that the M value of 314.375 was not significant (p < 0.05). Therefore, the assumption of homogeneity of covariance matrices was not satisfied. For this reason, a more robust statistic, Pillai's Trace, was used for reporting the result

The MANOVA revealed a significant multivariate effect for grade group, Pillai's Trace = 0.11, $F_{(8, 790)}$ = 5.64, p <0 .01, partial η2 = 0.05, and a non-significant multivariate effect for gender, Pillai's Trace = 0.02, $F_{(4, 394)}$ = 1.71, p > 0.05, partial η2 = 0.02. A significant multivariate effect for interaction was also found, Pillai's Trace = 0.04, $F_{(8, 790)}$ = 2.04, p < 0.05, partial η2 = 0.02. Therefore, results suggested that the first hypothesis (Ho1) was not rejected, but the second hypothesis (Ho2) and third hypothesis (Ho3) were rejected.

Based on the significant effects found from the MANOVA, a separate two-way univariate analysis of variance (ANOVA) for each of the dependent variables was conducted without undue inflation of the experiment-wise Type I error (Grimm & Yarnold, 1995). Levene's test was conducted to test the ANOVA assumption that each group of the independent variable has the same variance. This test revealed that the assumption of homogeneity of variances was violated for BEI [$F_{(5, 397)}$ = 3.72, p < 0.05], FS [$F_{(5, 397)}$ = 2.36, p < 0.05] and was met for UF [$F_{(5, 397)}$ = 2.01, p > 0.05], TR [$F_{(5, 397)}$ = 0.83, p >0 .05]. Levene's test was based on the assumption that each group had the same variance. However, failure to meet the assumption of homogeneity of variances is not fatal to MANOVA, which is relatively robust in the face of departures from normality

(Garson, 2009) .

Table 4

Effects of Grade and Gender on Children's Empathy.

Source	Dependent Variable	df	F	p	Partial η2
Gender	UF	1	4.109	0.043	0.010
	FS	1	0.457	0.499	0.001
	TR	1	1.731	0.189	0.004
	BEI	1	0.002	0.961	0.000
Grade	UF	2	4.990	0.007	0.025
	FS	2	15.555	0.001	0.073
	TR	2	2.242	0.108	0.011
	BEI	2	17.618	0.001	0.082
Gender * Grade	UF	2	1.644	0.194	0.008
	FS	2	2.180	0.114	0.011
	TR	2	1.463	0.233	0.007
	BEI	2	1.100	0.334	0.006
Error	UF	397			
	FS	397			
	TR	397			
	BEI	397			

The ANOVA results as shown in Table 4 reveal that the interaction effect was not significant (p >0.05) and significant grade effects on UF [$F_{(2, 397)}$ = 4.11, MSE = 0.04, p < 0.01], FS [$F_{(2, 397)}$ = 15.56, MSE = 0.06, p < 0.01) and BEI [$F_{(2, 397)}$ = 17.62, MSE = 0.02, p < 0.01) among the second, fourth and sixth graders (2nd grade: M_{UF} = 0.37, M_{FS} = 0.68, M_{BEI} = 0.48; 4th grade: M_{UF} = 0.44, M_{FS} = 0.73, M_{BEI} = 0.53; 6th grade: M_{UF} = 0.38, M_{FS} = 0.57, M_{BEI} = 0.45).

On the BEI scores, the fourth graders were found higher than those of the second and the sixth graders. Moreover, the fourth graders were higher than those of the second and the sixth grades on the scores of UF and FS. The results suggested that the development of empathy was with a quadratic pattern which increased to reach a high point in the fourth grade and then decreased in older childhood.

DISCUSSION OF RESULTS

The results of the study show that there was no significant difference between gender and also no significant interaction between gender and grades when they are compared simultaneously on the UF, FS, and TR. However, this research revealed significant effects of grade on the UF, FS and total scores among the second, fourth and sixth graders. Though calculated effect sizes were small to large in magnitude (0.03, 0.07, and 0.08, respectively), the sensible importance of the results is noted as they assist students in understanding their characteristics and behaviour and regulating their living accordingly.

The results from this research found that a decline in affective empathy between the students of grade-four and grade-six. Thus, this result supports previous research conducted by who found that a majority of students in the study's sample reaching middle school age showed a decline in cognitive empathy indicate that fourth and fifth grades would be an ideal time to focus on social and emotional growth in students and work on developing empathy skills. They also followed participants into sixth grade or during the transition to middle school. They found cognitive empathy declined as the students transitioned from late childhood into early adolescence, which coincides with the transition from elementary to middle school. The transition from primary to secondary education is an important moment in the school career of children. During this transition, some serious changes in the living environment (e.g., parents divorcing, losing their jobs, close friends moving away, greater emphasis on teacher control and fewer opportunities for student decision making in classroom) are at odds with developmentally normative psychological changes (e.g., self-perceptions as autonomous, independent decision makers).

CONCLUSIONS

The Vietnamese children's development of empathy was with a quadratic pattern which increased to reach a high point in the middle childhood and then decreased in early adolescence. To the best of the authors' knowledge, this is the first study to view empathy during late childhood and early adolescence as well as during the transition to middle school among Vietnamese children. The results of this research are important for Vietnamese educators to introduce activities to support empathy development. Further research is recommended to identify the underlying reasons for no gender differences in empathy among student in Vietnam. It is also suggested that research can be conducted involving students from the different areas in Vietnam and other parts of the

world so that the outcomes can be generalized.

REFERENCES

Adams, G. R., Schvaneveldt, J. D., & Jenson, G. O. (1979). Sex, age and perceived competency as correlates of empathic ability in adolescence. *Adolescence, 14*(56), 811.

Allemand, M., Steiger, A. E., & Fend, H. A. (2015). Empathy development in adolescence predicts social competencies in adulthood. *Journal of Personality, 83*(2), 229-241.

Bowling, A. (2014). *Research methods in health: Investigating health and health services*: McGraw-hill education (UK).

Bryant, B. K. (1982). An index of empathy for children and adolescents. *Child development*, 413-425.

DiLalla, L. F., Hull, S. K., & Dorsey, J. K. (2004). Effect of gender, age, and relevant course work on attitudes toward empathy, patient spirituality, and physician wellness. *Teaching and learning in medicine, 16*(2), 165-170.

Francis, L. J., & Pearson, P. R. (1987). Empathic development during adolescence: Religiosity, the missing link? *Personality and Individual Differences, 8*(1), 145-148.

Garson, G. (2009). *Multivariate GLM, MANOVA, and MANCOVA.* Retrieved from http://www.statisticalassociates.com/glm_multivariate_cc_p.pdf.

Grühn, D., Rebucal, K., Diehl, M., Lumley, M., & Labouvie-Vief, G. (2008). Empathy across the adult lifespan: Longitudinal and experience-sampling findings. *Emotion, 8*(6), 753-765.

Hoffman, M. L. (1987). *Cambridge studies in social and emotional development. Empathy and its development* (pp. 47-80). New York: Cambridge University.

Lawrence, E. J., Shaw, P., Baker, D., Baron-Cohen, S., & David, A. S. (2004). Measuring empathy: Reliability and validity of the Empathy Quotient. *Psychological medicine, 34*(5), 911-920.

Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). *SPSS for intermediate statistics: Use and interpretation*: Psychology Press.

Leiberg, S., & Anders, S. (2006). The multiple facets of empathy: a survey of theory and evidence. *Progress in Brain Research, 156*, 419-440.

Litvack-Miller, W., McDougall, D., & Romney, D. M. (1997). The structure of empathy during middle childhood and its relationship to prosocial behavior. *Genetic, Social, and General Psychology Monographs, 123*(3),
303-324.

O'brien, E., Konrath, S. H., Grühn, D., & Hagen, A. L. (2012). Empathic concern and perspective taking: Linear and quadratic effects of age across the adult life span. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 68*(2), 168-175.

Pallant, J. (2016). SPSS survival manual: A step by step guide to data analysis using IBM SPSS, 6. th edn: Open University Press, Maidenhead.

Williford, A., Boulton, A. J., & Jenson, J. M. (2014). Transitions between subclasses of bullying and victimization when entering middle school. *Aggressive Behavior, 40*(1), 24-41.