

The Big-Fish-Little-Pond Effect in China

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Abstract

Recent research has distinguished between the components of competency and affect in students' academic self-concept. The competency component operates on the basis of a comparison with peers. This comparison may lead to a big-fish-little-pond (BFLP) effect. To investigate the sustainability of the BFLP effect, a sample of 7th graders from 6 classes in a high school in China was surveyed on both the competency and affect components of school self-concept ($N = 297$) at the beginning, in the middle and by the end of grade 7 and compared across 4 groups categorised according to their high school entrance exam scores. Analysis of variance results showed that the highest scoring students had the highest self-concept of competency and the scores remained high throughout the year of 7th grade. In essence, the "big fish" remained big and the "small fish" remained small, and the pattern was consistent over time. The scores for the component of affect did not differ across groups, became slightly higher in mid-year, and remained high throughout the year. Instead of attempting to promote a positive affect in schooling, there seems to be a stronger need for enhancing a sense of competency in the "smaller fish".

Recent research has distinguished between two components of academic self-concept, namely, competency and affect (Marsh, Craven, & Debus, 1999). Although there seems to be a close association between the two components, a child's development in the competency component of self-concept tends to be more complex than in the component of affect (Yeung, Chow, Chow, Luk, & Wong, 2004). The component of competency is developed primarily on the basis of a mix of two effects: (a) a big-fish-little-pond effect resulting from students' comparison of their competency with their peers (Craven, Marsh, & Print, 2000; Marsh, 1991) and (b) an assimilation effect established from a sense of belonging to their peers (Marsh, Kong, & Hau, 2000). In most cases in

the classroom, we would expect these conflicting effects to occur at the same time. In classes with a mix of students of a wide range of abilities, these conflicting effects would impact on both higher- and lower-ability students. While higher-ability students would have a boosted self-concept of competency due to a BFLP effect, at the same time, they would also experience a lowered self-concept of competency due to an affiliation with their less able peers in the same class. For lower-ability students, while the BFLP effect would tend to lower their self-concept of competency, the affiliation with their highly able peers would tend to enhance their self-concept of competency at the same time. Whereas the contrasting effects may be difficult to delineate from each other, whether the net effect of the mix would persist over time is an interesting issue to investigate. In the present study, students in a high school in China were surveyed. Using self-concept of affect as a control variable, the stability of the two contrasting effects could be examined across three time points in the year of grade 7.

Components of Competency and Affect

The study of academic self-concept is important because academic self-concept has been found to be associated with academic achievement and academic behaviour (e.g., Chapman & Tunmer, 1995, 1997; Eccles & Wigfield, 1995; Hay, 1997; Helmke & Aken, 1995; Lee, Yeung, Low, & Jin, 2000; Marsh & Yeung, 1997a, 1997b, 1998; Muijs, 1997; Wigfield & Eccles, 1992; Yeung & Lee, 1999). Recently, Marsh, Craven, and Debus (1999) have proposed a distinction between two components of self-concept. By separating the academic self-concept items in the Self-Description Questionnaire (SDQ) instruments (Marsh, 1987, 1992, 1993), they found two components: (a) competency--items that probe students' sense of competency in schoolwork, and (b) affect--items that asked to what extent the students like schoolwork. They found that although there may be a close association between the two constructs, they were clearly distinguishable from each other. They recommended that these two components of student self-concept should be studied separately, but they did not elaborate on the difference in the students' development of these separate components of self-concept.

Social Impacts on Self-concept Development

A major difference between the components of competency and affect in students' academic self-concept development probably lies with the differential impacts of social comparison on these components. The component of competency is primarily influenced by a social comparison with peers on the basis of academic ability and performance whereas the component of affect is less likely to be influenced by social comparison. There have been thorough discussions on the phenomenon of social comparison in recent self-concept research. For example, Marsh (1986) has proposed an internal-external frame of reference (I/E) model to explain the near-zero correlation often found between math and verbal self-concepts (also see Bong, 1998; Skaalvik & Rankin, 1995; Tay, Licht, & Tate, 1995). Marsh argued that the development of students' academic self-concepts is primarily based on their achievement compared to their peers. By comparing externally with other students in class, those students who are strong in their verbal scores tend to have a high verbal self-concept. However, for those students whose verbal ability is not as good as their ability in math,

an internal comparison across subject domains tends to give them a lower verbal self-concept. Marsh suggested that the combined operation of both the internal and external comparisons leads to their responses to the self-concept measures. The I/E model has been supported by other researchers using samples from different countries (Skaalvik & Rankin, 1995; Tay, Licht, & Tate, 1995; Yeung & Lee, 1999), and in some of these studies, the correlation between verbal and mathematics self-concepts was found to be even negative.

The strong evidence in support of the I/E model implies an inevitable phenomenon of social comparison in the school context. Thus when considering the separation of the components of competency and affect in students' self-concept suggested by Marsh, Craven, and Debus (1999), we might expect that high-ability students would have a high self-concept of competency on the basis of a comparison with their less able peers, but may not like schoolwork any more than the average-ability students. Hence, if we study academic self-concept in terms of the two components separately, we may find contrasting results.

The distinction between competency in and liking of a subject domain has provided a useful foundation for the study of special samples, such as underachievers. For example, the distinction between these components has allowed a vigorous study of Chinese students in Hong Kong who have failed in the school system (e.g., Wong & Yeung, 2002; Yeung, 2003) and those students who are gifted and talented in schoolwork (e.g., Yeung et al., 2004). In an era emphasizing lifelong learning (see Curriculum Development Council, Hong Kong, 2001; Education Commission, Hong Kong, 2002), there seems to be an increasing need for separating out the competency from the affect component of self-concept. The separate consideration of the two components may throw light on how to effectively help students improve their learning.

Self-concept of Competency of High-Ability Students

Because of social comparisons, the development of students can be very complicated. For high-ability students (referred here as the "big fish") who consistently outperform their relatively lower-achieving peers (referred here as the "small fish"), academic self-concept may be established based on the facilitating BFLP effect described by Marsh (1991) and the inhibiting assimilation effect described by Marsh, Kong, & Hau (2000).

Marsh (1991) has provided a strong framework for considering the differential impacts of the BFLP effect and the assimilation effect when students of a diversity of abilities are grouped together. When high-ability students are grouped with average-ability students (not necessarily "small" fish although referred to as such here for distinguishing them from the big fish), we might expect a strong BFLP effect where the big fish find themselves much bigger than they would have thought when compared with their less able peers. However, at the same time, the affiliation with the less able peers would have an assimilation effect that leads to the perception that after all, they may not belong to the biggest category. The combination of the two contrasting effects may cancel out each other such that the big fish would remain reasonably big, and the smaller fish would remain comparatively small over time. The equilibrium may be disturbed, however, in the case where there is another class where all the big fish are placed together. In that case, the comparison with the

“real” big fish clearly placed in a class with only high-ability students may trigger an extraordinarily strong comparison that may lead to a lowered self-concept due to the BFLP effect (Yeung et al., 2004).

When the “small fish” are placed in the same class with high-ability students, we would expect a strong BFLP effect to operate. Compared with the high-ability students, the average students would tend to have lowered self-concept due to the social comparison. However, at the same time, the affiliation with the high-ability students in the same class would have an assimilation effect that leads to the perception of being good enough to be placed with their high-ability peers in the same class (Yeung et al., 2004). The combination of the two contrasting effects may cancel out each other such that these small fish would remain reasonably small.

Thus, in the context of the high schools in China where the policy dictates that all classes be mixed-ability classes, we might expect that the net effect of the BFLP and assimilation effects would remain reasonably constant over time. When we consider the component of competency, we may predict that due to the stability of a mix of high- and low-ability students in the Chinese high schools, neither the BFLP nor the assimilation effect would change drastically. An even clearer prediction is that since social comparison is less likely to influence the component of affect, the component of affect may be expected to be even more stable over time. In terms of the component of competency, the self-concept of the high-ability students would remain high when mixed with low-ability students whereas the self-concept of the low-ability students would remain low when mixed with high-ability students. Then, there will be a need for enhancing the self-concept of competency of the low-ability students so as to help them improve. On the contrary, if high- and low-ability students were found to differ in their self-concept of affect, then more work would be needed in promoting the students’ self-concept of affect.

Method

Participants

The participants were 627 7th graders in a highly reputed high school in the southern part of China (age ranging from 11 to 13; 48% girls). There were a total of 12 classes in 7th grade. The students were of a wide range of abilities. The high achievers could score up to 280 marks out of 300 (100 marks for Chinese, math, and English respectively) in the entrance examination, whereas the low achievers could score as low as 86. Due to a strong government policy that all classes in the junior secondary should be mixed-ability classes, the students were randomly assigned to the 12 classes such that no class would be disadvantaged. This means that the average high school entrance scores were expected to be very similar among all classes. The present study used six classes randomly selected from the 12 classes of 7th grade. The students came from families of a wide range of socio-economic backgrounds, from the wealthiest to the poorest. Because of the good reputation of the school and the high success rate of the students entering university, some students who lived over 50 km away chose to attend this school. All the students spoke Mandarin Chinese (also known as Putonghua) and at least one Chinese dialect. They also learned English as a foreign language. Consent to participate in the study was obtained from the students and the principal and teachers of

the school before the study. Using the mean entrance scores, the students were divided into four groups: very high, high, low, and very low. After listwise deletion of missing data, the analysis used a sample size of 297.

Material and Procedure

All students completed a survey on the constructs of competency and affect when the school year began in 7th grade (see Appendix). Five items were adapted from Marsh's (1990) ASDQ instrument (also see Yeung & Lee, 1999) to form the Competency scale. Another four items were designed to form the Affect scale on the basis of the Marsh's (1990) ASDQ instrument and the Marsh, Craven, Debus (1999) description of the affective component. The students responded to the survey on a 6-point scale (1 = absolutely disagree to 5 = absolutely agree) in the second week of the semester (Time 1), again at the end of the first semester (Time 2), and then again by the end of the second semester, that is, the end of the 7th grade school year (Time 3). The responses were coded such that higher scores reflected more favourable self-concepts.

Statistical Analyses

Preliminary analysis was conducted to examine the alpha estimates of internal consistency of the measures of the competency and affect components. Because the measures here have not been used with the present sample, a principal components analysis was conducted for the competency and affect measures separately for three time points. Then, confirmatory factor analysis (CFA) was conducted to establish the validity of the two constructs (the competency and affect components at three time points). The conduct of CFA has been described elsewhere (e.g., Bollen, 1989; Byrne, 1998; Joreskog & Sorbom, 1993; Marsh & Hocevar, 1985; Pedhazur & Schmelkin, 1991) and is not further detailed here. The analysis was conducted with the SPSS version of PRELIS and LISREL (Joreskog & Sorbom, 1988). The goodness of fit of models is evaluated based on suggestions of Marsh, Balla, and McDonald (1988) and Marsh, Balla, and Hau (1996) with an emphasis on the Tucker-Lewis index (TLI), but we present also the chi-square test statistic, the relative noncentrality index (RNI), and the root mean square error of approximation (RMSEA). For an acceptable model fit, the values of TLI and RNI should be greater than .9 and the RMSEA should be smaller than .08.

A total of four CFA models were tested. Model 1 tested the ability of the 27 items to form two separate factors at three time points (5 competency + 4 affect items separately at each time point). Because negative items were included in the present study, Model 2 differed from Model 1 by including correlated uniquenesses in the model for parallel items at multiple time points. Models 3 and 4 were models parallel to Models 1 and 2 respectively testing the possibility of the 27 items to form a single self-concept factor at each of the three time points. We hypothesized that the 27 items should form two separate factors representing the components of competency and affect in self-concept respectively at each time point. Thus, Model 2 was expected to be the best-fitting model.

To the extent that Model 2 fitted the data best such that the items for each component at each time point could form a reasonable scale, then the scores of the items were averaged respectively to form a scale score for Competency (5 items at each time point) and Affect (4 items at each time

point). We then conducted a 4 (group: categorized in terms of students' high school entrance exam scores) x 3 (time) analysis of variance (ANOVA) with the scores of the component of competency and another 4 (group) x 3 (time) ANOVA with the scores of the component of affect separately. On the basis of the social comparison among students, we hypothesized that there would be significant between-group differences in the competency component but no significant difference among the groups in the component of affect.

Results

Preliminary Analysis

The alpha reliability estimates for the two scales were good (alphas = .79 and .69 for Time 1, .86 and .70 for Time 2, and .83 and .78 for Time 3, respectively for Competency and Affect). A principal components analysis for each time point yielded the two a priori factors, explaining 55.6% of total variance for Time 1, 63.8% for Time 2, and 58.9% for Time 3. The factor loadings were also good (all loadings were greater than .5). These results provided preliminary support for the validity of the two scales at three time points.

To provide evidence for the equivalence of student ability across the six classes due to randomised placement of the students in the classes, an ANOVA with the total scores of the high school entrance exam as a dependent variable and class as the independent variable found statistically nonsignificant differences among the classes, $F(5,291) = 0.36$, $MSE = 972.63$, $p > .05$, indicating no noteworthy difference in the high school entrance exam scores across the six classes. The results provided evidence for a randomised placement of students in 7th grade. The means and standard deviations of the exam scores for the six classes are presented in Table 1.

Table 1. Means and Standard Deviations of High School Entrance Exam Scores in 6 Classes

<u>Classes</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<u>N</u>	50	48	52	49	47	51
<u>M</u>	227.04	226.56	224.90	225.76	227.09	220.12
<u>(SD)</u>	(28.63)	(27.71)	(30.72)	(30.29)	(31.29)	(37.31)

Note: $N = 297$. The High School Entrance Exam scores were the aggregate score of Chinese, English, and math scores and the maximum possible score was 300. ANOVA found no between-class difference, $F(5,291) = 0.36$, $MSE = 972.63$.

Factor Analysis

We tested four CFA models with the 27 self-concept items. A summary of the goodness of fit for each model is given at Table 2.

Model 1: Two components of self-concept at three time points. Model 1 (Table 2) positing six separate factors (2 factors x 3 times) provided a marginal fit to the data ($TLI = .85$, $RNI = .87$). The factor loadings were also good all $> .5$). The correlation between the two factors was reasonably low, indicating that the Competency and Affect scales could be distinguished from each other. Model 1

provided preliminary support for the separation of the two components of school self-concept.

Table 2. Goodness-of-fit Summary for Models

<u>Model</u>	χ^2	<u>df</u>	<u>TLI</u>	<u>RNI</u>
1. 6 factors	757.83	309	.85	.87
2. 6 factors, CU	487.82	282	.92	.94
3. 3 factors	1436.85	321	.63	.67
4. 3 factors, CU	997.23	294	.75	.79

Note: N = 297. RNI= Relative noncentrality index. TLI= Tucker-Lewis index. CU=correlated uniquenesses included in the model. The null model for the analyses had a χ^2 of 3686.33 with 351 df.

Table 3. CFA Solution for Model 2

<u>Variable</u>	<u>T1 Competency</u>	<u>T1 Affect</u>	<u>T2 Competency</u>	<u>T2 Affect</u>	<u>T3 Competency</u>	<u>T3 Affect</u>
Factor Coefficients						
Item 1	.78*	.50*	.80*	.55*	.83*	.54*
Item 2	.52*	.63*	.65*	.68*	.61*	.71*
Item 3	.50*	.69*	.59*	.62*	.57*	.70*
Item 4	.85*	.68*	.87*	.67*	.83*	.78*
Item 5	.68*	--	.77*	--	.64*	--
Uniquenesses						
Item 1	.40*	.74*	.36*	.69*	.31*	.71*
Item 2	.73*	.60*	.58*	.54*	.63*	.50*
Item 3	.75*	.52*	.66*	.62*	.67*	.50*
Item 4	.28*	.54*	.25*	.56*	.31*	.40*
Item 5	.54*	--	.40*	--	.59*	--
Factor Correlation						
T1Competency	--					
T1Affect	.37*	--				
T2Competency	.63*	.25*	--			
T2Affect	.37*	.60*	.45*	--		
T3Competency	.58*	.24*	.59*	.27*	--	
T3Affect	.26*	.40*	.22*	.59*	.40*	--

Note: N = 297. Parameters estimates are completely standardized. *p < .05. Principal components analyses with 9 items for 2 factors at each time point yielded the two factors respectively, explaining 55.6%, 63.8%, and 58.9% variance respectively.

Model 2: Two Components of self-concept with correlated uniqueness. Model 2 (Table 2) differed from Model 1 by including correlated uniquenesses for parallel items across multiple time

points in the model. The inclusion of the correlated uniquenesses in the model would provide more accurate parameter estimates. Model 2 with the correlated uniqueness included provided a better fit to the data than Model 1 (TLI = .92, RNI = .94). The factor loadings were good (.50 to .87) and the correlations between the two factors ($r_s = .37, .45, \text{ and } .40$ respectively for the three time points) were sufficiently low to support the separation of the two components of self-concept. Thus Models 1 and 2 provided good support for separation of the Competency and Affect components of self-concept as described by Marsh, Craven, and Debus (1999). The solution of Model 2 is presented at Table 3.

Model 3: One self-concept factor for each time point. Model 3 (Table 2) positing a single self-concept factor derived from the nine items for each time point did not fit the data (TLI = .63, RNI = .67). Compared to Model 1, there was no support for Model 3 positing a single self-concept factor for each time point.

Model 4: One self-concept factor with correlated uniqueness. Model 4 (Table 2) differed from Model 3 by including correlated uniqueness in the model like Model 2. This model did not fit the data either (TLI = .75, RNI = .79). Compared to Model 2, there was no support for Model 4 positing a single self-concept factor with nine items for each time point. In sum, as expected, Model 2 was the best-fitting model indicating that the academic self-concept of the primary school students in the present study can be studied in two components, viz., Competency and Affect.

Analysis of Variance Results

The scores of the items for Competency and Affect were averaged respectively to form the scale scores for each time point for subsequent analysis. The means and standard deviations of scores for the competency and affect components of self-concept are presented in Table 4. The 4 (group: very high, high, low, very low) x 3 (time) ANOVA with the scores of the component of competency found statistically significant main effect of group, $F(3, 293) = 13.51$, $MSE = 0.79$, $p < .001$, $\eta^2 = .12$. The main effect of time was not significant, $F(2, 586) = 1.14$, $MSE = 0.26$, $\eta^2 = .00$. The group x time interaction effect was not significant either, $F(6, 586) = 0.89$, $MSE = 0.26$, $\eta^2 = .01$. These results indicated that higher-ability students had higher self-concept of competency and the difference between high- and low-ability students did not change across the three time points in the investigation.

In contrast, the 4 (group) x 3 (time) ANOVA with the scores of affect did not find significant main effect of group, $F(3, 293) = 1.10$, $MSE = 0.77$, $\eta^2 = .01$. Neither significant were the main effect of time, $F(2, 586) = 3.48$, $MSE = 0.28$, $\eta^2 = .01$, nor the group x time interaction effect, $F(6, 586) = 0.21$, $MSE = 0.28$, $\eta^2 = .00$. An inspection of the mean affect scores for each group found that all the groups had a relatively high score (all > 4 on a 6-point scale), indicating that they all liked schooling. Hence, consistent with Yeung et al. (2004), there was evidence that the social comparison phenomenon did not influence the students' component of affect in their school self-concept.

Table 4. Means and Standard Deviations of Self-concept Scores in 4 Groups

<u>Groups</u>	<u>1. Very High</u>	<u>2. High</u>	<u>3. Low</u>	<u>4. Very Low</u>
<u>N</u>	31	144	79	43
<u>Time 1 Competency</u>				
<u>M</u>	3.74	3.40	3.29	3.11
<u>(SD)</u>	(0.71)	(0.58)	(0.63)	(0.51)
<u>Time 2 Competency</u>				
<u>M</u>	3.79	3.38	3.24	2.86
<u>(SD)</u>	(0.65)	(0.63)	(0.59)	(0.56)
<u>Time 3 Competency</u>				
<u>M</u>	3.72	3.31	3.22	3.04
<u>(SD)</u>	(0.65)	(0.65)	(0.82)	(1.06)
<u>N</u>	31	144	79	43
<u>Time 1 Affect</u>				
<u>M</u>	4.23	4.11	4.24	4.18
<u>(SD)</u>	(0.68)	(0.63)	(0.63)	(0.60)
<u>Time 2 Affect</u>				
<u>M</u>	4.42	4.23	4.29	4.33
<u>(SD)</u>	(0.49)	(0.60)	(0.60)	(0.58)
<u>Time 3 Affect</u>				
<u>M</u>	4.23	4.14	4.23	4.25
<u>(SD)</u>	(0.61)	(0.68)	(0.82)	(1.03)

Note: N = 297. The students responded to the survey on a 5-point scale, coded such that higher scores reflected more favourable self-concept. The survey was conducted at three time points: Time 1 = beginning of semester 1 in Grade 7; Time 2 = middle of Grade 7; Time 3 = end of Grade 7.

Discussion

The survey with the Chinese sample of 7th graders found that the students' self-concept of competency was probably based on a complex interaction of social comparison and assimilation with peers. The net effects of a BFLP and assimilation effects seemed to be consistent across three time points; that is, at the beginning, in the middle, and by the end of the grade 7 year. In essence, the big fish remained big and the small fish remained small. Previous studies have suggested that when higher-ability students were placed together with other higher-ability students in a purely gifted class or when placed together with average students, the BFLP effect and the assimilation effect may work differently (Yeung et al., 2004). However, in the situation like the Chinese high school context where all classes are mixed-ability classes, the net effect may favour the BFLP effect that is based on social comparison. Thus the higher-ability students tended to have a higher self-concept of competency than the lower-ability students throughout the year of 7th grade. Because there was no other class where all higher-ability students were grouped together, there was no extra effect of comparison against an even more capable class of students like that demonstrated by

Yeung et al. (2004).

When the high-ability students in the Chinese high school were grouped with average-ability students, there tended to be a BFLP effect operating such that the “big fish” would find themselves even bigger than they would have thought when compared with their less able peers, hence an increased self-concept of competency. However, at the same time, the affiliation with the less able peers would have an assimilation effect that would lead to a lowered self-concept of competency. It was not surprising that the two contrasting effects did cancel out each other such that the big fish remained reasonably big and the smaller fish remained comparatively small. What is particularly interesting is the finding that the equilibrium was maintained throughout the three time points in the present investigation that spanned over a whole academic year.

For the small fish, when placed in the same class with high-ability students, the BFLP effect would also operate. Comparing with the high-ability students, the average students would, not surprisingly, have a lowered self-concept of competency due to the social comparison. At the same time, the affiliation with the high-ability students in the same class would lead to an assimilation effect that could enhance their self-concept of competency (Yeung et al., 2004). It was therefore not surprising that the small fish remained comparatively small, but again, it was particularly interesting to find that the equilibrium of the two contrasting effects was maintained so consistently throughout the whole academic year.

Thus, as expected, in the context of the high schools in China where the policy dictates that all classes be mixed-ability classes, the net effect of the BFLP and assimilation effects was reasonably constant over time. This implies that perhaps for the “big fish”, as they progressed through the year of 7th grade, while they experienced an increase in self-concept of competency through social comparison, they also experienced a counterbalancing decrease in self-concept of competency through affiliation with their lower-ability peers. For the “small fish”, as they progressed through 7th grade, they perhaps experienced a decrease in self-concept of competency through social comparison with their more able peers, but they also experienced a counterbalancing increase in self-concept of competency through affiliation with their higher-ability peers.

Considering the component of competency only, it seemed that neither the BFLP nor the assimilation effect had change drastically, probably due to the stability of the mix of high- and low-ability students in the Chinese high schools setting. Nevertheless, the stability of capability, achievement, and self-concept may have particularly devastating effects on the wellbeing of the lower-achieving students. Given the known fact that lower self-concept would lead to lower achievement (Marsh & Yeung, 1997a, 1998), the finding of a consistently low self-concept of competency in the lower achievers calls for special attention. In the present investigation where the school is a highly reputed school in the province, although a comparison with their particularly able peers would lead to a particularly low self-concept, their affiliation with these more able peers would also lead to an improved self-concept. Thus, for a school with good reputation and some very capable students, both effects of BFLP and assimilation would be strong. In an ordinary school setting where the range of student capability may be small, both these effects could be

comparatively smaller. In any case, previous studies seemed to suggest that the BFLP effect is often predominant in a school setting (e.g., Marsh, Kong, & Hau, 2000) and the lower-achievers tend to be mostly affected. Thus, whereas there is a need for further investigation of the comparison and affiliation phenomenon in a range of school settings, there seems to be evidence that we need to pay special attention to the self-concept of competency in lower achievers.

Methodologically, the application of CFA and the use of the component of affect as a control variable in this study provided stronger validation of the constructs. For many educators and researchers, liking of schoolwork and a mastery orientation in school motivation form a major factor that contributes to desirable educational outcomes (e.g., McInerney, Marsh, & Yeung, 2003; Yeung & McInerney, 2005). However, if self-concept of affect tends to be reasonably stable over time (Yeung et al., 2004), then the promotion of the weaker students' affect component of self-concept may not be as fruitful as the promotion of the competency component. In the present study, the differential findings for the components of competency and affect in the between-group comparisons provided a clearer picture of how the social comparisons operated. Nevertheless, whereas there was evidence in the present and other studies (Wong & Yeung, 2002; Yeung et al., 2004) that lower achievers do not necessarily hate school, it could be due to the affiliation with the particularly brilliant peers who show strong motivation in their study that even the low achievers became motivated. In this sense, the use of the present sample in a highly reputed school with a large proportion of particularly brilliant students may be a limitation of the present investigation. Thus replication of results from other school settings may be necessary.

In sum, Marsh (1991) has provided a strong framework for considering the differential impacts of the BFLP effect and the assimilation effect when students of a diversity of abilities are grouped together. Marsh, Craven, and Debus (1999) have also provided an excellent framework for assessing the two components of self-concepts, which constitute the major variables to study. The findings showed that the net effect resulting from the contrasting BFLP and assimilation effects tended to be very stable over time. Hence, the "big fish" remained big and the "small fish" remained small, and the pattern was consistent across three time points spanning over the whole 7th grade. Whether "big" or "small" fish, the scores for the component of affect did not differ across groups and remained high throughout the year. Instead of attempting to promote a positive affect in schooling, there seems to be a stronger need for enhancing a sense of competency in the "smaller fish".

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Appendix

Self-concept of Competency and Affect Scales	<u>Alpha</u>	<u>Time1</u>	<u>Time2</u>	<u>Time3</u>
<u>Competency</u>	.79	.86	.83	
1. I am good at most school subjects.				
2. Most school subjects are easy to me.				
3. I learn things quickly in most school subjects.				
4. I have always done well in most school subjects.				
5. I do well in most school subjects.				
<u>Affect</u>	.69	.70	.78	
1. I like to go to school.				
2. Going to school is enjoyable.				
3. I wish I wouldn't need to go to school any more. #				
4. I hate going to school. #				

Note: The responses ranged from 1 (strongly disagree) to 5 (strongly agree) and were coded such that higher scores reflected more favourable responses. # These items were reverse coded.