Students’ School Motivation and Aspiration Over High School Years

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Students from a school in Hong Kong ($n = 199$) responded to 22 items asking about their school motivation and aspirations in a survey. Structural equation models found four school motivation factors consistent with the task, effort, competition, and praise scales of the Inventory of School Motivation, one education aspiration factor, one career aspiration factor, and significant relations of the motivation factors with the aspiration factors. Task and effort orientations were found to be stronger than the other orientations and to have relatively stronger associations with education aspirations, whereas task and praise had stronger associations with career aspirations. In examining potential change in students’ goal orientations and aspirations through high school years, analysis of variance found that 7th-graders had significantly higher scores in task and effort orientations and career aspirations than 9th-graders, and higher scores in praise orientation than 11th-graders. The apparent drop in motivation scores from Grade 7, especially in task and effort orientations, both pertaining to a mastery orientation dimension that has been assumed to be a major driving force for excellence, calls for urgent attention to student motivation in junior high school classes.

In achievement goal theory, goals are cognitive representations of the purposes students adopt for their learning in achievement situations (Pintrich, Marx, & Boyle, 1993). Thus, students’ achievement goals answer the basic question: Why am I doing this (academic) task? In answering this question, students’ achievement goals guide and direct their cognition, behaviour, and affect as they engage in academic tasks. Hence, achievement goals are presumed to be linked to achievement outcomes. Apart from academic achievement, important outcomes as a function of achievement goals may include education and career aspirations. During the years of high school, motivational goals develop together with experiences of success and failure in schoolwork. It is therefore important to examine whether there is a developmental trend in

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students’ goal orientations and whether achievement-related orientations are associated with student aspirations for education and career. In the present study, we focus on the academic aspects of goals and examine the differential influences of such goals on outcomes such as education and career aspirations. We also examine student development in goal orientations and aspirations across Grades 7, 9, and 11 in a Hong Kong high school.

**Motivation and its Influences**

Achievement goal theories have focused, in particular, on two answers to the “Why” question outlined above. Students who engage in an immediate task primarily to improve their level of competence and understanding are said to hold a mastery (or learning or task-related) goal orientation. In contrast, students who engage in an immediate task primarily to show competence with reference to others and/or against external standards, such as grades, are said to hold performance (or ego-related) goals. As such, performance goals focus on evaluations of relative ability (Ames, 1992), self-worth (Covington, 2004), and on gaining favourable judgments from others rather than on effort. Performance-oriented individuals can exhibit either approach or avoidance tendencies depending on their perceptions of competence (Elliot, 1999). Research into achievement goal theory has consistently indicated that the extent to which students report pursuing mastery goals varies positively with their achievement outcomes. The salience and positive effect of mastery goals seem relatively universal (McInerney, 2003). The research evidence on performance goals is not so clear (Covington, 2004). Performance approach goals have been linked to mastery-like achievement patterns on some occasions (e.g., Elliot & Church, 1997), but less so on other occasions (e.g., Elliot, McGregor, & Gable, 1999). Students tend to adopt mastery goals in situations in which achievement is perceived to be related to attaining future goals that depend on understanding or competence (e.g., when they perceive the future utility of the knowledge or skill to academic or career aspirations). When individuals perceive attainment of future goals as contingent on demonstrating high competence relative to others (e.g., competitive admissions to college or medical school, competitive selection for jobs or careers), they are likely to adopt performance approach goals as well as mastery goals.

In recent studies, McInerney et al. (McInerney, Marsh, & Yeung, 2003; McInerney, Yeung, & McInerney, 2001) have extended goal theory by validating a multidimensional model of motivation examining the motivational correlates of school success across a range of cultural groups. This model of motivation is derived from personal investment theory (Maehr & Braskamp, 1986; Maehr & McInerney, 2004; McInerney, Maehr, & Dowson, 2004), which has three major components: personal goals, sense of self, and facilitating conditions. The personal goals component of the model has four elements, each of which is separated into two subsets. These are presented in Table 1.

Each of these components is presumed to influence engagement in school tasks and thus may play an important role in directing behaviour toward outcomes that
individual students would like to achieve (Ford, 1992; Pervin, 1983; Wentzel, 1998), and may explain why students desire to achieve in schoolwork (Ames, 1992; Wentzel, 1998).

Of this range of goals, four are utilized in this research, namely: two mastery goals (task and effort), one performance goal (competitiveness/competition), and one extrinsic goal (praise). This selection was made on the basis of previous research which indicated that, almost universally, students do not endorse social power or token reward goals, which are usually unrelated to achievement outcomes across a wide variety of groups studied (McInerney, 2003). The two social goals were also excluded from analysis as our major focus was on the academic reasons for achievement, rather than on the social reasons for academic achievement.

### Change in Motivation Over Time

Midgley and Edelin’s (1998) review of literature from the 1980s suggests that many students “experienced a deterioration in perceptions of self, affect, motivation, and performance during early adolescence and in particular, when they moved to middle-level schools” (p. 195). During childhood, students go through a process of shaping and reshaping aspects of their self (Skaalvik & Valas, 1999); however, it is only during adolescence that formal operational thought emerges (Alsaker & Olweus, 2002) and abstract processing with reference to both self and others occurs. It is during this period of development that the adolescent starts asking questions about ego, status, goals, and ambitions. As such, it is reasonable to assume that adolescence is a period of time when motivational values, goal orientations, and sense of self are being defined, redefined, challenged, adopted, changed, or abandoned.

The school environment at this time is of particular importance; it is the major environment in which most adolescents spend a significant period of their time. Hence the school environment provides the social, intellectual, and moral reference points outside the family on which to gauge the importance of one’s own developing values and goals. Importantly, it is during adolescence that students’ motivational orientations and sense of self may place significant restrictions on the amount of

<table>
<thead>
<tr>
<th>Table 1. Four dimensions of goal orientations</th>
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</thead>
<tbody>
<tr>
<td>Task (mastery)</td>
</tr>
<tr>
<td>Effort</td>
</tr>
<tr>
<td>Ego (performance)</td>
</tr>
<tr>
<td>Social solidarity</td>
</tr>
<tr>
<td>Social concern</td>
</tr>
<tr>
<td>Extrinsic</td>
</tr>
</tbody>
</table>

...
effort they engage in within the academic domain (Stipek & Gralinski, 1996). For example, students may perceive that they are incapable of improving, or alternatively, in a positive way, the students could visualize that through concerted effort, they can be the smartest in the class (Butler, 1999). Or the adolescent may value social goals over intellectual pursuits. Ultimately, the degree to which an adolescent feels competent in an endeavour and adopts adaptive motivational orientations will directly influence performance in that endeavour (Covington, 1992; Schunk, 1991).

The majority of the research suggests that there is generally a decline in motivation during adolescence (Anderman, Maehr, & Midgley, 1999; Kurita & Zarbatany, 1991; Midgley & Edelin, 1998; Murphy & Alexander, 2000). However, Bouffard, Vezeau, and Bordeleau (1998) suggest that superior achievement and also increased motivation may occur after the acquisition of a differentiated concept of ability in early adolescence. Furthermore, although Kurita and Zarbatany (1991) agree that declines in motivation occur in early adolescence, their findings indicate that motivational decline occurs only until Grade 9. Authors who suggest that motivation and academic performance deteriorate throughout adolescence claim that these declines are primarily due to the less facilitative classroom environment in the transition to middle school (Feldlaufer, Midgley, & Eccles, 1988; Midgley, Feldlaufer, & Eccles, 1988). Therefore, it is possible to argue that with differences in teaching practices, declines in achievement motivation may not be inevitable. The bulk of the research examining developmental trends in motivational orientation over the middle school years is based upon Western participants. In the present study, we attempt to explore whether there is any noticeable trend in the development of Chinese students’ motivational orientation over the years of high school in Hong Kong.

**Academic Outcomes**

Students’ academic behaviour and achievement are thought to be closely associated with their motivation (Ames, 1992; Dweck, 1989; Lepper & Hodell, 1989; Marsh & Yeung, 1997a, 1997b; Pintrich & Maehr, 1995; Wentzel, 1998). There is considerable research into the association of motivation and academic outcomes (e.g., Lepper & Hodell, 1989; McInerney, Roche, McInerney, & Marsh, 1997; McInerney et al., 2001; Pintrich et al., 1993; Wentzel, 1991, 1998). For high school students, two important academic outcomes are: desire for further education and career aspirations after high school education. These aspirations are an additional driving force that may impact on student motivation and academic achievement. Thus educational aspirations may strengthen a student’s desire for lifelong education, emphasized in the recent education reform in Hong Kong (Education Commission, Hong Kong, 2000) whereas career aspirations may push the student to work hard for better employment opportunities.

In other words, educational expectations and aspirations for the future provide a valuable source of purpose. According to McInerney (2001), a sense of purpose in learning is an important psychological construct that provides an additional driving force for success in academic work. Thus a student’s positive interpretations of his or
her potential education opportunities and future career prospects may provide an additional driving force for continued academic study. The present study, therefore, examines two aspects of aspirations, namely further education and career aspirations.

**Purposes of this Study**

This study sets out to examine the following questions:

1. Can the Inventory of School Motivation (ISM), which articulates four specific goals (task, effort, competition, and praise orientation) be used to describe motivational patterns in Hong Kong Chinese high school students?
2. What are the relationships between task, effort, competition, and praise orientations and Chinese students’ desire for further education and career aspirations?
3. What developmental trends occur in mastery, performance, and extrinsic orientations as Chinese students progress from Grade 7 to Grades 9 and 11?

Because there is a traditional Chinese belief that all people can excel through hard work, Chinese students and their parents believe in the supplemental effect of effort in assisting an individual to excel even though the individual may not be intelligent. Based on this traditional thinking, we anticipate a particularly high score for task and effort goals in this Chinese sample and particularly strong associations of task and effort to aspirations. For the performance and extrinsic dimensions, the situation is less clear. Considering the keen competition in the schools of Hong Kong (Tsang, 1992), we might expect a particularly high score for competition. However, because of the emphasis of modesty in the Chinese culture and the minimal use of praise by parents and teachers, there is the possibility that the scores for competition and praise, not normally endorsed by society in general, will be lower than the scores for mastery goals. We also expect the associations of these orientations with aspirations to be weaker than the association between mastery orientations and aspirations.

**Method**

**Participants**

The participants were 199 students from a high school in Hong Kong (age range 12–18). The school was a co-educational high school with students from middle to low socio-economic family backgrounds (49% girls). Consent to participate in the study was obtained from the participants before they completed the survey. After listwise deletion of missing data, 81, 56, and 62 completed surveys from Grades 7, 9 and 11 respectively were analyzed.

**Material**

The 22 items pertaining to six *a priori* scales are listed in the Appendix. The four school motivation scales were adopted from McInerney et al.’s (1997) Inventory
of School Motivation (ISM) and translated into Chinese. The two mastery orientation constructs were task and effort, and the performance and extrinsic orientation constructs were competition and praise respectively. However, one of the items for the task factor – “I like to be given chances to do something again” – seriously lowered the reliability of the scale and was finally dropped from the analysis. Two aspiration scales were constructed: education aspirations and career aspirations. The participants responded on a five-point scale (1 = strongly disagree, 5 = strongly agree). Higher scores reflected more favourable responses to the item.

Statistical Analysis

In preliminary analysis, we examined the alpha estimate of internal consistency for each a priori scale. Applying structural equation modeling (SEM), we examined the paths from the four motivation constructs to the two aspiration outcomes. Based on the established scales, the items of each construct established in the SEM models were averaged to form a scale score. Using the mean scale score of each construct, one-way analysis of variance (ANOVA) was conducted to compare the three groups (7th-, 9th-, and 11th-grade students) on the six variables.

SEM 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. All analyses throughout this paper were conducted with the SPSS version of PRELIS and LISREL (Joreskog & Sorbom, 1988). The goodness of fit of models was evaluated based on the suggestions of Marsh, Balla, and McDonald (1988) and Marsh, Balla, and Hau (1996), with an emphasis on the Tucker-Lewis index (TLI). The chi-square test statistic and the relative noncentrality index (RNI) are also reported. For an acceptable model fit, values of TLI and RNI should be greater than .9.

The objectives of the SEM were to test the constructs with the present sample and to examine the relative association of the various motivational goals to the students' aspiration outcomes. A series of five SEM models were tested based on a 22 × 22 (15 motivation items + 7 aspiration items) covariance matrix. Model 1 had two purposes: to test whether the 22 items could form the six a priori factors, and to examine the paths from the four motivation factors to the two aspiration factors. To examine further the differential strengths of the paths, Models 2 and 3 examined those paths from either the mastery factors, or the performance factors, to both aspiration outcomes. Model 2 posited paths from only the task and effort factors to both the education and career aspiration outcomes, whereas Model 3 posited paths from only the competition and praise factors to both education and career aspirations.

The next two models tested paths from the four motivation factors to each of the aspiration outcomes separately. Thus Model 4 posited paths from the four motivation factors to education aspiration only, whereas Model 5 posited paths from the four motivation factors to career aspiration only. Because all five models
had the same number of parameter estimates, they were equivalent models such that the paths could be examined directly.

Finally, to investigate whether there was a developmental pattern in students’ goal orientation and aspirations, we tested whether the level of motivation and students’ education and career aspirations would change over the years of high school. Using the scale means, we conducted a series of analyses of variance (ANOVA) to examine the differences between Grades 7, 9, and 11 in goal orientations and aspirations. As the scores were found to be significantly different between groups, range tests using the Tukey approach were conducted to examine which group differed from which other groups. The focus of interest was whether 7th grade students differed from students in later years of high school, and then whether 9th and 11th grade students differed from each other.

Results

Preliminary Analysis

The alpha reliability of each scale was acceptable (see Appendix). We tested five SEM models with the 22 items. A summary of the goodness of fit for each model is given at Table 2.

<table>
<thead>
<tr>
<th>Path models</th>
<th>χ² (df)</th>
<th>TLI</th>
<th>RNI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Four factors to aspirations</td>
<td>335.18 (194)</td>
<td>.91</td>
<td>.92</td>
<td>.07</td>
</tr>
<tr>
<td>2. Two mastery factors to aspirations</td>
<td>335.18 (194)</td>
<td>.91</td>
<td>.92</td>
<td>.07</td>
</tr>
<tr>
<td>3. Two performance factors to aspirations</td>
<td>335.18 (194)</td>
<td>.91</td>
<td>.92</td>
<td>.07</td>
</tr>
<tr>
<td>4. Four factors to education aspiration</td>
<td>335.18 (194)</td>
<td>.91</td>
<td>.92</td>
<td>.07</td>
</tr>
<tr>
<td>5. Four factors to career aspiration</td>
<td>335.18 (194)</td>
<td>.91</td>
<td>.92</td>
<td>.07</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Path models</th>
<th>Task</th>
<th>Effort</th>
<th>Competition</th>
<th>Praise</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Education</td>
<td>Career</td>
<td>Education</td>
<td>Career</td>
<td>Education</td>
</tr>
<tr>
<td>Model 1</td>
<td>.27*</td>
<td>.60*</td>
<td>.35*</td>
<td>-.11</td>
</tr>
<tr>
<td>Model 2</td>
<td>.28*</td>
<td>.66*</td>
<td>.41*</td>
<td>.01</td>
</tr>
<tr>
<td>Model 3</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Model 4</td>
<td>.27*</td>
<td>—</td>
<td>.35*</td>
<td>—</td>
</tr>
<tr>
<td>Model 5</td>
<td>—</td>
<td>.60*</td>
<td>—</td>
<td>.11</td>
</tr>
</tbody>
</table>

Note: n = 199; number of variables = 22; the null model χ²(df) value of 2029.38(231); RNI = relative noncentrality index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation.
Testing of the Constructs

Model 1 (Table 2), positing four motivation and two aspiration factors, provided a good fit to the data ($TLI = .91$, $RNI = .92$). The solution of Model 1 is presented in Table 3. The factor coefficients were good (.53–.92). The factor correlations were all moderate ($r .35–.67$), showing that all the factors could be clearly distinguished from one another. Thus Model 1 provided good support for the validity of the four motivation and two aspiration constructs. An inspection of the correlations between goal orientations and aspiration outcomes found that all the goal orientations were positively associated with both education and career aspirations.

Association of Motivational Goals with Aspiration Outcomes

The paths from task orientation to education and career aspirations were both significant ($\beta$s of .27 and .60, respectively). The path from effort orientation to education aspiration was significant ($\beta = .35$). The path from praise orientation to career aspiration was also significant ($\beta = .30$). All the other paths were statistically nonsignificant. Thus the results not only supported the six factors examined here, but also
indicated that the students’ task orientation had significant associations with both their education and career aspirations whereas their effort orientation had a significant association with their education aspiration. Interestingly, their praise orientation, which pertains to the extrinsic dimension of motivational orientation, also had a significant association with their career aspiration (see Figure 1).

The other four models had the same number of parameter estimates and were therefore equivalent models with the same model fit ($TLI = .91$). In Model 2, which posits paths from only the two mastery goals (i.e., task and effort) to the two aspiration outcomes, the paths from task orientation to education and career aspirations were both found to be significant ($\beta$s of .28 and .66, respectively). The path from effort orientation to education aspiration was also significant ($\beta = .41$). However, the path from effort to career aspiration was not significant. Hence, for the mastery orientation, the pattern of results was similar to that in Model 1.

Model 3, positing paths from only the performance and extrinsic factors (i.e., competition and praise respectively) to the two aspiration outcomes, displayed a
different pattern to Model 1. The path from competition orientation to education aspiration was significant ($\beta = .31$) and the path from praise orientation to career aspiration was also significant ($\beta = .47$). All the other paths were not statistically significant (see Table 2). Thus, when only the impacts of performance and extrinsic goals were examined, competition orientation did have a strong association with education aspiration.

Model 4 posits paths from all four goal orientations to education aspiration only, and Model 5 posits paths from all four goal orientations to career aspiration only. Both displayed patterns of results similar to those in Model 1. In Model 4 (see Table 2), the paths from task orientation and from effort orientation to education aspiration were both significant ($\beta$s of .27 and .35, respectively) but the other paths were not significant. In Model 5 (see Table 2), the path from task orientation to career aspiration was significant ($\beta = .60$) and the path from praise orientation to career aspiration was significant ($\beta = .30$), but the other paths were not significant. Thus, consistent with Model 1, the results showed that the students’ task orientation had significant associations with both their education and career aspirations, their effort orientation had a significant association with their education aspiration, and their praise orientation had a significant association only with their career aspiration.

Change in Motivation and Aspirations

The averaged scores of items for each factor were compared across the three groups. The means and standard deviations are presented in Table 4. A series of one way ANOVAs was conducted to examine the potential differences among three groups of students (Grades 7, 9, and 11). When comparisons found significant $F$ values, range tests using the Tukey approach were conducted to examine further the mean differences between groups. We hypothesized that Grade 7 students would display a

<table>
<thead>
<tr>
<th>Factor</th>
<th>Grade 7 $n = 81$</th>
<th>Mean</th>
<th>SD</th>
<th>Grade 9 $n = 56$</th>
<th>Mean</th>
<th>SD</th>
<th>Grade 11 $n = 62$</th>
<th>Mean</th>
<th>SD</th>
<th>$F$</th>
<th>MSE</th>
<th>$\eta^2$</th>
<th>Tukey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task</td>
<td></td>
<td>4.37</td>
<td>.69</td>
<td></td>
<td>3.72</td>
<td>1.03</td>
<td></td>
<td>3.76</td>
<td>.85</td>
<td>13.30**</td>
<td>.72</td>
<td>.12</td>
<td>Grade 7 &gt; 11,9</td>
</tr>
<tr>
<td>Effort</td>
<td></td>
<td>3.36</td>
<td>.81</td>
<td></td>
<td>3.03</td>
<td>.78</td>
<td></td>
<td>3.15</td>
<td>.74</td>
<td>3.19*</td>
<td>.61</td>
<td>.03</td>
<td>Grade 7 &gt; 9</td>
</tr>
<tr>
<td>Competition</td>
<td></td>
<td>3.20</td>
<td>.91</td>
<td></td>
<td>3.07</td>
<td>.93</td>
<td></td>
<td>2.91</td>
<td>.84</td>
<td>1.93</td>
<td>.80</td>
<td>.02</td>
<td>—</td>
</tr>
<tr>
<td>Praise</td>
<td></td>
<td>3.29</td>
<td>.84</td>
<td></td>
<td>3.00</td>
<td>.78</td>
<td></td>
<td>2.84</td>
<td>.81</td>
<td>5.55*</td>
<td>.67</td>
<td>.05</td>
<td>Grade 7 &gt; 11</td>
</tr>
<tr>
<td>Education ASP</td>
<td></td>
<td>3.69</td>
<td>.99</td>
<td></td>
<td>3.50</td>
<td>.91</td>
<td></td>
<td>3.61</td>
<td>1.02</td>
<td>0.62</td>
<td>.95</td>
<td>.01</td>
<td>—</td>
</tr>
<tr>
<td>Career ASP</td>
<td></td>
<td>4.44</td>
<td>.73</td>
<td></td>
<td>3.92</td>
<td>.99</td>
<td></td>
<td>4.28</td>
<td>.75</td>
<td>6.89**</td>
<td>.67</td>
<td>.07</td>
<td>Grade 7, 11 &gt; 9</td>
</tr>
</tbody>
</table>

Note: $n = 199$; students responded to a five-point scale with higher scores reflecting more favourable responses; the four motivation orientations were task, effort, competition, and praise; the two outcomes were education and career aspirations (ASP); univariate $F$ tests had a $df$ of (2,196); *$p < .05$; **$p < .01$.
significantly higher score than students from Grades 9 and 11 in the motivation orientations, and perhaps also in the aspiration factors, whereas there may not be significant differences between Grades 9 and 11. The \( F \) statistics are presented in Table 4.

**Task orientation.** There were statistically significant differences among the three groups of students \( (F[2,196] = 13.30, \text{MSE} = .72, p < .01, \eta^2 = .12) \). A post-hoc Tukey test found that students from Grade 7 had significantly stronger task orientations than students from Grades 9 and 11, whereas Grade 9 and 11 students did not differ from each other. For a five-point scale, the score of the Grade 7 students seemed to be quite high (\( M = 4.37 \)). Also, even though lower than Grade 7 students, the scores of students from Grades 9 and 11 were still quite favourable (\( M_s \) of 3.72 and 3.76, respectively), indicating the students’ strong endorsement of task orientation.

**Effort orientation.** There was a significant difference among the three groups of students \( (F[2,196] = 3.19, \text{MSE} = .61, p < .05, \eta^2 = .03) \). A post-hoc Tukey test found that students from Grade 7 had significantly stronger effort orientation than students from Grade 9. Although theoretically pertaining to the same mastery dimension (McInerney et al., 1997; McInerney et al., 2001), the scores for the effort orientation (\( M_s \) of 3.36, 3.03, and 3.15, respectively) were not as high as for the task orientation (\( M_s \) of 4.37, 3.72, and 3.76, respectively).

**Competition orientation.** No significant differences were found among the three groups \( (F[2,196] = 1.93, \text{MSE} = .80, p > .05, \eta^2 = .02) \). This result showed that the students from different grade levels did not differ in their competition orientation. It is interesting to note that despite the keen competition in the Hong Kong school system, the scores for competition orientation in this sample (\( M_s \) of 3.20, 3.07, and 2.91 respectively) seemed to be lower than the scores for the mastery orientations. Given the five-point response scale, it is clear that competition is not endorsed strongly by these students.

**Praise orientation.** There was a significant difference among the three groups \( (F[2,196] = 5.55, \text{MSE} = .67, p < .05, \eta^2 = .05) \). A post-hoc Tukey test found that students from Grade 7 had significantly stronger praise orientation than students from Grade 11. It may be worth noting that, in this sample, the scores for both competition and praise orientations (\( M_s \) of 3.29, 3.00, and 2.84 respectively for praise) tended to be lower than the task and effort scores.

**Education aspirations.** No significant difference was found among the three groups \( (F[2,196] = .62, \text{MSE} = .95, p > .05, \eta^2 = .01) \). Hence, the students from different
grade levels did not differ in their education aspirations. The scores for all three groups were relatively high on a five-point scale (Ms of 3.69, 3.50, and 3.61, respectively).

**Career aspirations.** There was a significant difference among the three groups ($F[2,196] = 6.89$, $MSE = .67$, $p < .01$, $\eta^2 = .07$). A post-hoc Tukey test found that students from Grades 7 and 11 had significantly higher career aspirations than students from Grade 9. It is also worth noting that even though there were significant between-group differences, the scores for all grades were remarkably higher for career aspirations (Ms of 4.44, 3.92, and 4.28, respectively) than education aspirations (Ms of 3.69, 3.50, and 3.61, respectively).

In sum, the pattern of results was quite consistent for task, effort, and praise orientations, and for career aspirations. Grade 7 students had higher task involvement, tended to invest more effort toward excellence, expected more praise from various sources, and had higher aspirations for a desirable future career.

**Discussion**

In examining the school motivation of the Hong Kong sample, we adopted four scales of the McInerney et al. (2001, 2003) ISM instrument. Although the instrument has been validated in Western and non-Western samples (see McInerney et al., 1997, 2001), we applied a structural equation modeling approach to test the applicability of the scales to the present sample of Chinese-speaking high school students in Hong Kong. Results supported the applicability of the scales, and the distinctiveness of two outcome variables – education and career aspirations – was also supported. Such results provided good support for the ISM measures in further examination of the relations among the mastery, performance, and extrinsic motivation orientations and their relations with aspiration outcomes.

Not surprisingly, all four goal orientations were found to be positively associated with both aspiration outcomes. Education aspirations referred to students’ aspirations to further studies after secondary education, whereas career aspirations referred to students’ aspirations to better future careers after secondary studies. Instead of using the conventional correlational approach, we applied a structural equation modeling approach to examine the path from each goal orientation to each outcome construct. As expected on the basis of theory, the task and effort orientations were generally found to have relatively stronger associations with aspirations for further education than were competition and praise. Nevertheless, it is important to note that the results also showed significant correlations between all four motivation factors and the two aspiration factors (all $rs$ were positive and statistically significant), demonstrating that all four school motivation orientations were positively related to both the education and career aspiration outcomes when considered separately.

While there is a significant drop in task motivation from Grade 7 to Grades 9 and 11, task motivation remains quite high, and higher than any of the other motivators
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across grades, suggesting that it is a stable motivational orientation, and is important as a consistent and strong predictor of aspirations. Indeed, despite the apparent drop in task orientation, it is pleasing to find that the lowered scores for 9th- and 11th-graders were still reasonably high (Ms of 3.72 and 3.76, respectively, on a five-point scale). However, the decrement in task motivation from the relatively high scores in Grade 7 needs to be investigated further. Ideally, because of the strong links between this motivator and aspirations, as well as school achievement, teachers and schools need to implement strategies to maintain this motivation at a high level throughout high school. As we are dealing with averages, the data suggest a significant fall-off in task motivation by a considerable number of students as they proceed through the grades. Hence it is important to capitalize on and maintain students' initial interest in school tasks at the beginning of their high school experiences as a source of motivation and learning by providing stimulating and challenging learning activities throughout their schooling.

There is an apparent decrement in effort motivation from Grade 7 to 9, which then seems to rise slightly again in Grade 11, suggesting that, in line with adolescent development, students in Grade 9 are less willing to endorse effort as a motivator than students fresh to high school. It is possible that for Grade 9 students, endorsement of effort might be seen as a disendorsement of ability (the more effort one puts into being successful at an activity, the less bright one is likely to be seen) which is commonly considered an adolescent phenomenon as students begin to differentiate the relative importance of effort and ability attributions for success (see Miller & Hom, 1997). Perhaps these results reflect the reality that students in Grade 9 do, indeed, put less effort into their work! By Grade 11, students may be more willing to endorse the importance of effort as they approach the Hong Kong Certificate of Education Examination, which signifies perhaps the end of their secondary schooling, hence the rise in effort motivation in Grade 11. Given the positive relationship between effort orientation and school aspirations as well as school achievement, it seems important that teachers find a means of enhancing effort motivation during these crucial school years of early adolescence.

Competition and praise orientations seem to decline consistently across the grades (although the differences between the grades are nonsignificant for competition), suggesting that performance and extrinsic motivators (such as praise) become less salient as students get older. Given research findings which indicate that both competition and dependence on praise can have negative impacts on intrinsic motivation and achievement, this decline is probably a positive phenomenon, indicating that as students progress through the grades, they become less praise-dependent and competitively oriented. We again note that students endorse both these goals less than they endorse the mastery-oriented goals of task and effort. It is clear that there is a strong and consistent relationship between task orientation and higher education and career aspirations, which is more dominant than the relationships between these two desirable outcomes and effort, competition, or praise. Schools' official sanction of competition and extrinsic reinforcers as major motivators of school achievement would seem to be counterproductive. Emphasis within school settings should be on
task and effort motivation, which would be in greater synchrony with what students themselves endorse.

That competition as a performance orientation was not highly endorsed by these students and was one of the weakest predictors of aspirations compared to the other orientations is surprising. Since the old days as a colony of the United Kingdom, the elite of society in Hong Kong has tended to be those with higher education qualifications who also receive a higher income (Tsang, 1992). Furthermore, as Tsang (1992) implied, Hong Kong is one of the places where students are probably the most seriously segregated according to their academic achievement. Thus competition has always been keen for allocation to a “good” school and to a “good” class. It was surprising to find that competition did not seem to form an important predictor of aspirations. On the one hand, low scores in competition and praise orientations may reflect that, despite the very competitive characteristics of the school setting in Hong Kong, the students tended to be more mastery-oriented. On the other hand, the low scores may have reflected that these orientations are not socially accepted and not endorsed by the students and the community in general.

As we have indicated, educational aspirations are relatively consistent across grades, which is a good thing. However, there is a significant drop in career aspirations in Grade 9 which rises again in Grade 11. This may be worrisome, but could again reflect adolescent development – ambitions for the future may be less clear and the connections between schooling and achieving career goals may not be strongly endorsed. This is a common experience for teachers, who are at pains to make schooling appear relevant to adolescents’ career prospects because many adolescents challenge the relevance of schooling during this period of time. This result should therefore warrant further investigation.

Although the present results are based on cross-sectional analysis and a stronger scrutiny of the phenomenon would require replication using longitudinal data, experienced teachers would probably agree that these findings are consistent with the real situation of student motivation in the school. Thus, it is worth exploring possible ways to maintain and enhance students’ task and effort motivation, particularly effort motivation, which appears relatively low from Grade 7 throughout their secondary schooling. Was the drop in task and effort orientations from Grade 7 due to a mismatch of the curriculum with the students’ genuine needs? Were the curriculum contents not appealing enough to the teenagers as they progressed through high school? Was it because many high school students began to experience repeated failure of all kinds so they finally became defeated by the time they reached later grades? Was it because middle grades are a period of time in adolescent development where endorsement of task, effort, and aspirations naturally declines because of conflicting emotional, personal, and social influences, only to rise again as the students move through to the higher grades? These are empirical questions to be examined. However, because of the small sample size in the present study, for generalization of the findings, there is a need for replication of results with a much larger sample with longitudinal data.
To alleviate the declines, particularly in task and effort motivation, the school curriculum may need to be improved to become more practical and relevant to the students’ daily lives and to their future job-seeking needs. Perhaps teachers need to adopt more innovative teaching methods to arouse students’ interest in learning the curriculum contents, and emphasize the importance of effort to school achievement. With the above issues in mind, policy-makers in the education field, educational administrators, and school teachers should work together to increase or at least to maintain students’ motivation in junior high schools and prevent it from falling when students proceed to senior secondary classes. Attention should be drawn to the existing education system, policy, and classroom practices, scrutinizing whether they have unintentionally discouraged students’ intrinsic motivation for their schoolwork. It seems that a lot of work needs to be done, but we need first to find out what is the real cause of the seemingly diminishing motivation of high school students as they proceed from junior to senior secondary years.

Acknowledgements

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References


Tsang, W. K. (1992). *The class structure in Hong Kong*. Hong Kong: Hong Kong Institute of Asia-Pacific Studies, Chinese University of Hong Kong.


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**Appendix: Response items and alpha reliabilities of factors**

<table>
<thead>
<tr>
<th>Task</th>
<th>Alpha</th>
</tr>
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<tbody>
<tr>
<td><strong>Task</strong></td>
<td></td>
</tr>
<tr>
<td>Q30 I like to see that I am improving in my schoolwork.</td>
<td>.75</td>
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<tr>
<td>Q31 I need to know that I am getting somewhere with my schoolwork.</td>
<td></td>
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</tbody>
</table>

<table>
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<tr>
<th>Effort</th>
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<tbody>
<tr>
<td>Q70 I try hard at school because I am interested in my work.</td>
<td>.73</td>
</tr>
<tr>
<td>Q87 I work hard to try to understand something new at school.</td>
<td></td>
</tr>
<tr>
<td>Q88 I am always trying to do better in my schoolwork.</td>
<td></td>
</tr>
</tbody>
</table>
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**Competition**

Q6 Winning is important to me.
Q38 Coming first is very important to me.
Q47 I like my schoolwork to be compared with others’.
Q79 I am happy only when I am one of the best in class.
Q81 I work harder if I’m trying to be better than others.

**Praise**

Q16 Praise from my teachers for my good schoolwork is important to me.
Q21 Praise from my friends for good schoolwork is important to me.
Q36 At school I work best when I am praised.
Q64 I want to be praised for my good schoolwork.
Q94 Praise from my parents for good schoolwork is important to me.

**Education**

Q5 I hope I can have advanced education.
Q18 I want to go on to college or university education.
Q32 I try my best hoping to get into an advanced educational institution.
Q53 I am eager to do some advanced courses.

**Career**

Q12 I wish to get a good job.
Q23 I very much hope to get a good salary when I am employed.
Q34 I hope I will find desirable employment in future.

\[ n = 199 \]