INTRODUCTION

To put into perspective the need for a comprehensive career education or career guidance programme for all students in the schools, let me quote Mr John Yip, Director of Education, in a Sunday Times interview (1 Sep 1991) with him on "THE ROLE OF TEACHERS AND THE CHALLENGES THAT LIE AHEAD." In response to the question "Have these challenges changed over the years in tandem with changing social and economic realities?" he said:

"Teachers also have an important responsibility in meeting the non-academic needs of their pupils. They have to provide pastoral care and counselling as well as guidance on career choices. The importance of teachers in guiding pupils in their careers has emerged only recently. In the past, career options were rather limited. But today, there are many and teachers will need to guide their pupils to make the right choice."

Today's schools have to meet the social imperatives of not only providing adequate education and training for our young; but also they must efficiently place individuals into appropriate employment, appropriate both in terms of each individual's needs and aspirations and in terms of the needs of the labour market.

A significant finding from The Report of the National Productivity Council Task Force on Career Guidance in Schools (Sim, 1985) revealed that career guidance in schools is grossly neglected; and Tan's study (1988) showed that there is a lack of systematic career guidance in the schools. Singapore students are not well facilitated in their school-to-work transitions and also they are often unaware of their capabilities and/or opportunities available in employment. There is a need to bridge the gap between the school and the realities of the world of work so that students can make informed decisions about their future career. This calls for a comprehensive career education or career guidance programme in the schools.

Some recommendations arising from the above-mentioned report and study have been translated into actions. For example, a National Career Exhibition is held annually since 1988; and 54 secondary schools are currently implementing a Pastoral Care programme with a career guidance component in it. The Ministry of Education is also taking steps to introduce a new and stronger model for career guidance into Singapore schools (Watts, 1989).

But how can individual schools effectively plan and design a career education or career guidance programme to meet the needs of their students? What do we know about the career maturity characteristics and career guidance needs of Singapore adolescents? For example, do personal factors such as grade level, gender and academic ability; or home factors such as SES and parental influence have an effect on the career development and guidance needs
of students? Is there a relationship between the career maturity and career guidance needs of students? What are the best predictor variables of career maturity and career guidance needs?

This paper hopes to provide some research findings on the career development of secondary students in terms of their career maturity characteristics and career guidance needs; and discusses the implications of such data for a comprehensive approach to the design and implementation of a career education or career guidance programme.

THEORETICAL & CONCEPTUAL FRAMEWORK OF THE STUDY

This study is based on Super's (1957) developmental self-concept theory. He conceptualized five vocational life stages and the accompanying career-related issues and concerns that occur at each different development stage. He theorized the importance of self-concept in the selection and implementation of career choice. Hence, an adolescent is said to be in the exploration stage whereby he is involved in self-examination, role try-outs and occupational exploration in the school. His developmental tasks at this stage include crystallization, specification and in some cases implementation of a vocational preference.

One important aspect of career development is career maturity which is defined as the readiness of an individual to make informed, age appropriate vocational decisions. According to some theorists, career maturity develops most intensely during adolescence and is characterised by an increase in the capacity and willingness to plan for the future. Career guidance can be defined as a planned process of developmental guidance aimed at facilitating the maturation of pupils' self-concept, abilities and skills with a view of developing their capacity to understand, assess and make informed decisions. Hence, guidance needs refer to the help expressed by students in coping with career related tasks encountered in that vocational life they are in. The conceptual framework of this study is shown in Figure 1.
RESEARCH METHODOLOGY & INSTRUMENTATION

Using a cross-sectional design and a stratified random sampling technique based on grade level, gender and academic ability, a sample of 521 students was drawn from a secondary school; and a purposive sampling technique was used to obtain sub-samples for the socio-economic status (SES) and parental influence variables. Data were collected using a General Information Questionnaire, the Career Development Inventory - Australian version (CDI-A) and a Career Problem Checklist (CPCL). The students responded to the 3 instruments in one sitting.

RESULTS

I Status of Career Maturity and Career Guidance Needs of Students (See charts below)

Results of this study show that the overall career maturity of the students is relatively low. This conclusion is made based on a comparison with the career maturity of the national sample of Singapore students in Tan’s study (1988). Similar to the results of her study, the students show a general lack of knowledge about the world of work and skills in career decision making; and are also low in their attitudinal career maturity.

The student-expressed needs for career guidance as measured by the Career Problem Checklist is relatively high. The consequences of the low maturity of students in career planning and in seeking world of work information attest to their need for assistance in these two areas of their career development.

CAREER MATURITY CHARACTERISTICS OF STUDENTS
MEAN CDI-A SCORE AS % OF TOTAL SCORE

CAREER GUIDANCE NEEDS OF STUDENT
MEAN CPCL SCORE AS % OF TOTAL SCORE

[Charts and diagrams showing data analysis results]
II Factors Influencing the Career Development and Guidance Needs of Students

Grade Level (See charts below)

The overall career maturity of the students show a monotonic increase with grade level, and the students in the upper grade levels are significantly more mature that students in the lower grade levels in all aspects of their career development.

Although no significant differences in the overall career guidance needs are found across grade levels, the oldest students (Secondary 5) seem to have the lowest level of career guidance needs and they have significantly less needs in two areas, namely career exploration and world of work information. On the other hand, Secondary 3 students expressed the highest level of needs in career exploration whereas Secondary 2 students expressed the highest level of needs in seeking world of work information.

Gender (See charts which follows)

Although no significant gender differences are found in the overall career maturity of the students; significant differences are observed when the attitudinal and cognitive aspects of career maturity are examined. Male students are more mature in the attitudinal aspect of their career development. On the other hand, females are more mature in the cognitive dimension of their career development, especially in the area of decision making.
Girls have expressed a higher level of needs in career planning as compared to boys. This result corresponds to the finding that girls are less involved in their career planning, whereas boys are more involved. Results for the other areas of career guidance show no gender differences.

Academic Ability (See charts which follows)

Students of higher academic ability (Express stream) are more mature than students of lower academic ability (Normal stream) in the cognitive aspect of their career development. That is, they are more knowledgeable about the world of work and have better career decision making skills. But, Normal stream students are attitudinally more career mature than the Express stream students.

In terms of career guidance needs, there seems to be no difference in the total needs between students of the two academic ability groups. Closer examination of the four areas of guidance needs reveal that Normal stream students have expressed a higher level of needs in decision making. This result corresponds to the finding that students of lower academic ability have weaker career decision making skills.
Socioeconomic Status (See charts below)

This factor seems to have a significant impact on the overall career maturity of adolescents. Students of a more favourable socioeconomic background are attitudinally more career mature than students of a less favourable background; but the former are not more mature in the cognitive aspect of career development than the latter.

Results also show a strong influence of SES on the career guidance needs of students. Students of a less favourable socioeconomic background have expressed a higher level of needs in all areas of career guidance needs as compared to their counterparts from a more favourable background. This finding reflects and corresponds to their lower career maturity status.
Parental Influence (See charts below)

Students who are exposed to greater parental influence are significantly more mature than students who have had negligible or no parental influence in both their attitudinal and cognitive aspects of career development. In other words, for students whose parents take an active interest in their career development, they are found to be more actively involved in their career planning and career exploration. They also know more about the world of work.

Parental influence also seems to have a strong impact on the career guidance needs of students. Students who reported less parental involvement in their career development, have expressed a higher level of needs in their career exploration, in seeking world of work information and in career decision making.

III Relationship between Career Maturity and Career Guidance Needs (See Table 1)

The Career Orientation Total score (COT - measure of career maturity) is significantly correlated with the Career Guidance Needs score (CGneeds - measure of career guidance needs); and a moderate negative correlation coefficient is obtained ($r = -.36$). The COT score also shows significant correlation with each of the scale of the CPCL instrument, indicating that a less career mature student has more needs in all areas of career guidance.
Table 1: Intercorrelations between the CDI-A and CPCL scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>CPneeds</th>
<th>CEneeds</th>
<th>WWneeds</th>
<th>DMneeds</th>
<th>CGneeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP</td>
<td>-.23***</td>
<td>-.20***</td>
<td>-.34***</td>
<td>-.34***</td>
<td>.39***</td>
</tr>
<tr>
<td>CE</td>
<td>-.16**</td>
<td>-.10*</td>
<td>-.20***</td>
<td>-.18***</td>
<td>-.22***</td>
</tr>
<tr>
<td>WW</td>
<td>-.01</td>
<td>-.09*</td>
<td>-.03</td>
<td>-.17**</td>
<td>-.08</td>
</tr>
<tr>
<td>DM</td>
<td>-.02</td>
<td>-.12*</td>
<td>-.04</td>
<td>-.16**</td>
<td>-.09*</td>
</tr>
<tr>
<td>CDA</td>
<td>-.23***</td>
<td>-.18***</td>
<td>-.33***</td>
<td>-.32***</td>
<td>-.38***</td>
</tr>
<tr>
<td>CDK</td>
<td>-.02</td>
<td>-.12*</td>
<td>-.04</td>
<td>-.19***</td>
<td>-.10*</td>
</tr>
<tr>
<td>COT</td>
<td>0.22***</td>
<td>-.20***</td>
<td>-.29***</td>
<td>-.34***</td>
<td>-.36***</td>
</tr>
</tbody>
</table>

* p < .05
** p < .01
*** p < .001

IV Predictors of Career Maturity and Career Guidance Needs (See Tables 2 and 3)

Results show that grade level and parental influence variables are the best predictors of career maturity. The indication that grade level is the primary significant predictor of career maturity supports Super’s developmental concept of career development; and that the parental influence variable adds significantly to the prediction of career maturity is consistent with other research findings of the great impact that parents have on the career development of adolescents.

For career guidance needs, the best predictors are SES and parental influence. Both of these variables have a positive influence on career guidance needs, that is, students of a more favourable socioeconomic background as well as students who are exposed to greater parental influence in their career planning have less career guidance needs.
## Table 2: Summary of Stepwise Regression Analysis of Career Orientation Total Score using Four Independent Variables

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>R</th>
<th>R²</th>
<th>F-ratio</th>
<th>r²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grade Level</td>
<td>.348</td>
<td>.121</td>
<td>71.6***</td>
<td>.35***</td>
</tr>
<tr>
<td>2</td>
<td>Parental Influence</td>
<td>.458</td>
<td>.222</td>
<td>67.2***</td>
<td>.34***</td>
</tr>
<tr>
<td>3</td>
<td>Stream of Study</td>
<td>.501</td>
<td>.251</td>
<td>20.1***</td>
<td>.08</td>
</tr>
<tr>
<td>4</td>
<td>Gender</td>
<td>.507</td>
<td>.257</td>
<td>3.9*</td>
<td>-.06</td>
</tr>
</tbody>
</table>

Legend: r² - Zero-order correlation coefficient between each independent variable and the dependent variable.
* - p < .05
** - p < .01
*** - p < .001

## Table 3: Summary of Stepwise Regression Analysis of Career Guidance Needs Score using Three Independent Variables

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>R</th>
<th>R²</th>
<th>F-ratio</th>
<th>r²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SES</td>
<td>.214</td>
<td>.046</td>
<td>24.8***</td>
<td>-.21***</td>
</tr>
<tr>
<td>2</td>
<td>Parental Influence</td>
<td>.259</td>
<td>.067</td>
<td>11.6***</td>
<td>-.20***</td>
</tr>
<tr>
<td>3</td>
<td>Grade Level</td>
<td>.272</td>
<td>.074</td>
<td>4.1***</td>
<td>-.08</td>
</tr>
</tbody>
</table>

Legend: r² - Zero-order correlation coefficient between each independent variable and the dependent variable.
* - p < .05
** - p < .01
*** - p < .001
IMPLICATIONS OF STUDY

This study has yielded some important observations and significant findings on the career development of students in the secondary school surveyed. These research findings have practical implications for the planning and implementation of a comprehensive career education or career guidance programme in any school.

1. Evidences show that the career maturity of Singapore students is low and the student-expressed need for career guidance is high. Given the present school system which is academically oriented, together with a general lack of career guidance in schools, students need much help to enhance their career development during their school years. Therefore, it is now timely for schools to re-examine their roles in the provision of a school-wide career guidance programme for students with the objective of facilitating their career development.

2. In general, the career guidance programme in schools may be weak because it lacks a model with a theoretical foundation. The formulation of a sound model of career guidance requires an understanding of the process of career development of adolescents. Thus, the planning of a comprehensive career guidance programme should be based on a developmental framework of career development with the aim of enhancing students' career maturity.

3. A knowledge and understanding of the potential influence of certain factors on adolescents' career development is important in the planning of an effective career guidance programme. Based on the findings of this study, it is proposed that an effective career guidance programme should include the following features:

   - a structured and developmental framework of planned activities that act as a stimulus to the career development of students.
   - intervention strategies that are compensatory in nature to assist subgroups of the student population in the weak areas of their career development.

4. It is important that a school should plan and implement a career guidance programme that caters to the unique needs of its students.

CONCLUSION

It is hoped that the research findings of this study demonstrate to educationists, policy makers, school principals and teachers involved in the provision of career guidance for students in Singapore schools that an understanding of the process of career development of adolescents and their career maturity characteristics and guidance needs is necessary and helpful towards the planning and implementation of a comprehensive career education or career guidance programme in schools.
REFERENCES


