

How Do They Manage it?

An Investigation On The Study And Learning Strategies Of Year 1 HKUST Students

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Introduction

- Outcome Based Education (OBE)
- Purpose of this paper: Understand the recipients of OBE
- Provide instructors with additional information when developing OB programs
- CELT's new focus on Student Learning Research



Research Procedure

- Randomly selected 455 students from the 2007-08 Cohort of new students
- Stratified sampling by schools using equal sampling fractions
- Asked them to fill out the online **Learning and Study Strategies Inventory (LASSI)** 2nd ed in Nov, 2007
- 87% students filled out LASSI and results by gender, school and correlation with A-level results are analyzed.

What is LASSI

- Learning and Study Strategies Inventory (LASSI)
- A diagnostic and prescriptive inventory to assess students' study strategies (how they learn)
- 80 items, 10 scales

Ten Scales of LASSI

Scale	Area of Assessment
Anxiety	How much students worry about school
Attitude	Students' interest in academic success
Concentration	Students ability to maintain attention on required academic tasks
Information Processing	How well students acquire knowledge by using different strategies

Motivation	Students' discipline, diligence and willingness to exert effort
Self-Testing	Students' use of techniques to monitor comprehension
Selecting Main Ideas	Students' skill at identifying what is important for studying
Study Aids	Students' use of resources to help them learn
Time Management	Students' ability in managing their time effectively
Test Strategies	Students' use of strategies to prepare for and take tests

Three Components of Strategic Learning

- **Skill:** Information Processing Scale, Selecting Main Ideas Scale, Test Strategies Scale
- **Will:** Anxiety Scale, Attitude Scale, Motivation Scale
- **Self-Regulation:** Time Management Scale, Concentration Scale, Study Aids Scale, Self-Testing Scale

Interpretation of Scores

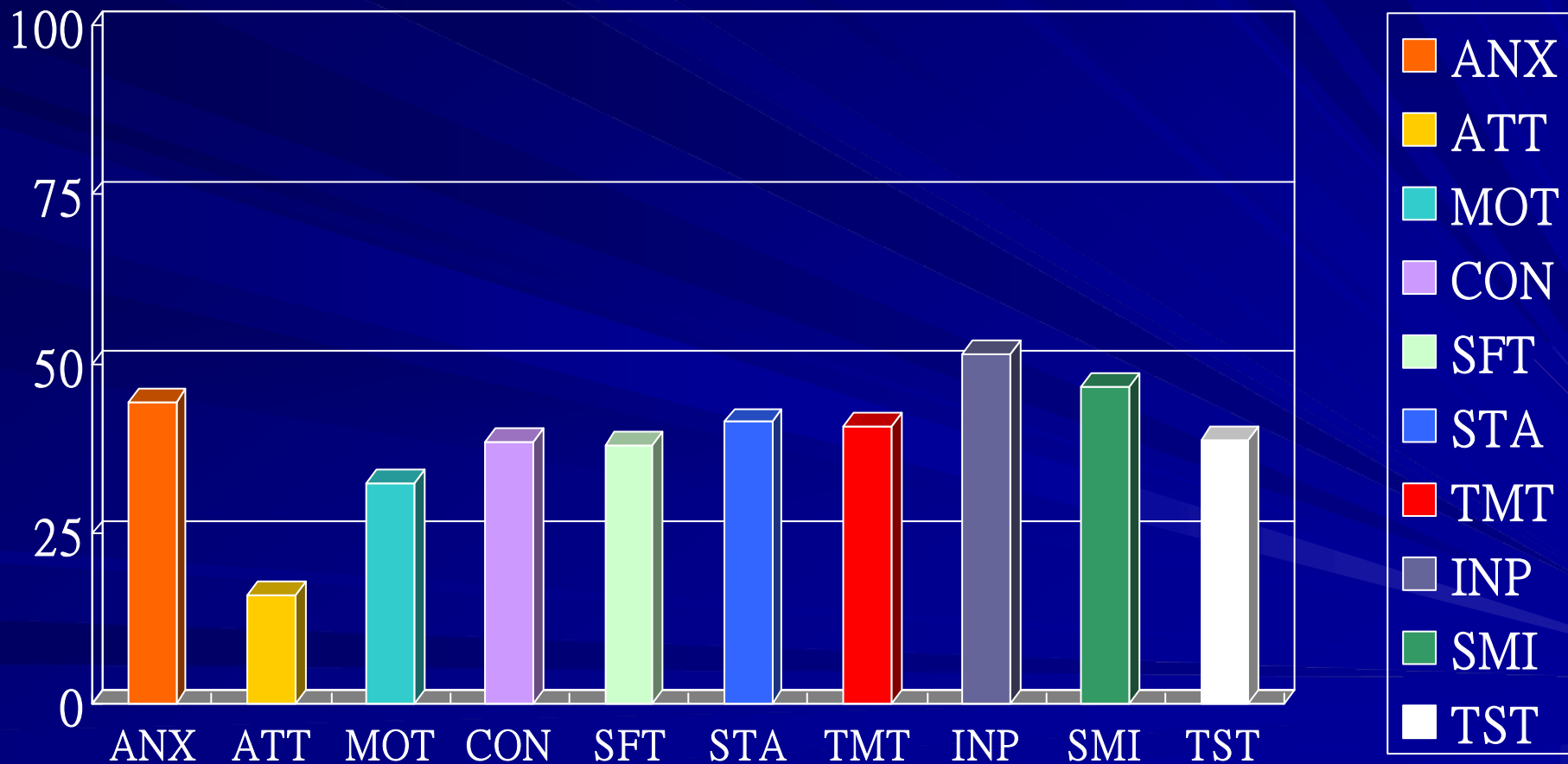
- **75 – 100th** : Do not have to give a high priority to improving the strategies in those areas.
- **50 – 75th**: Consider improving the strategies.
- **0 – 50th** : Need to improve the skills to avoid serious problems succeeding in university.

Results

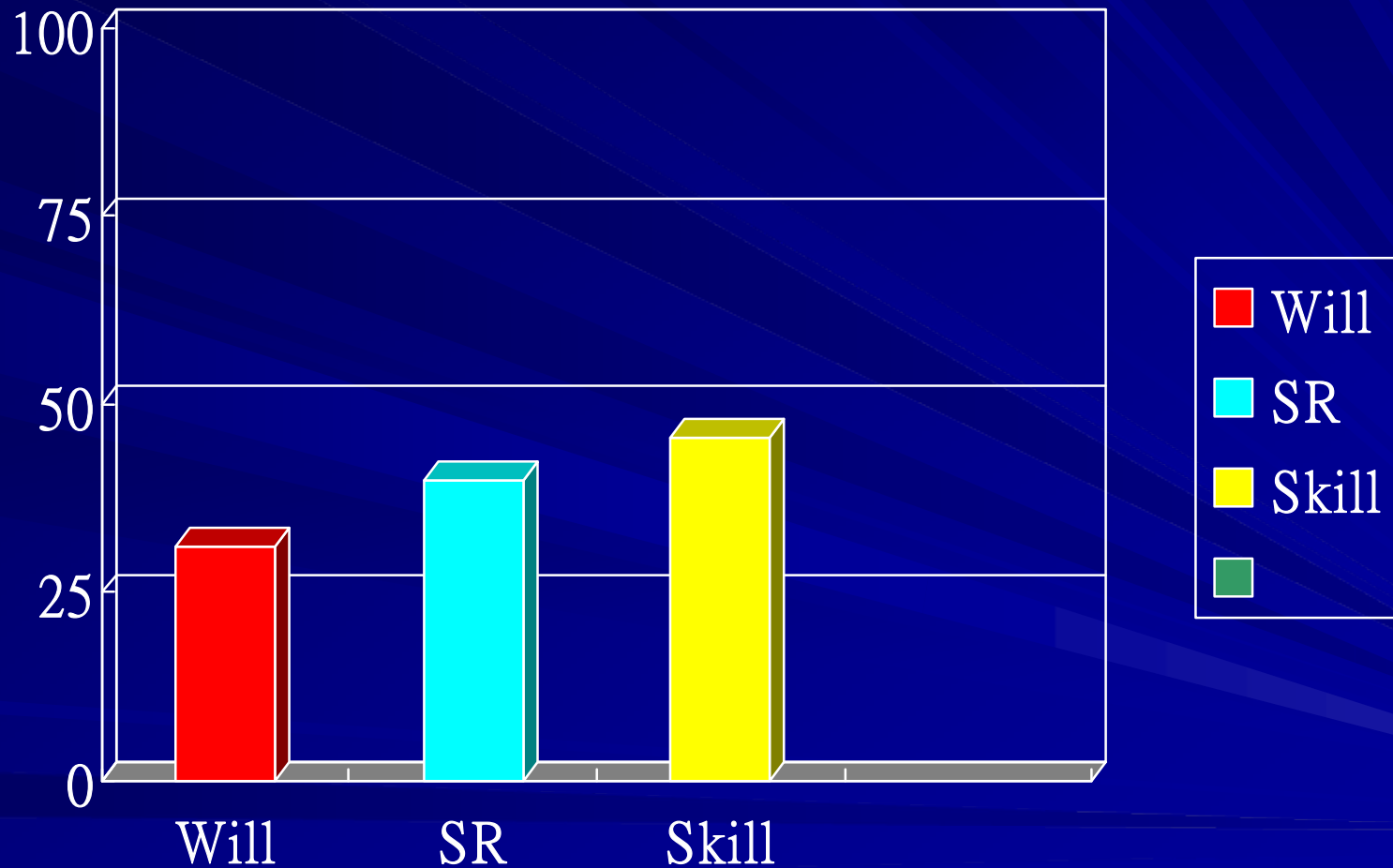
- 1. Descriptive statistics of scores
- 2. By Gender
- 3. By School
- 4. Correlation with A-level results

Results

Mean Percentile Score of LASSI Scales Cohort 2007-08

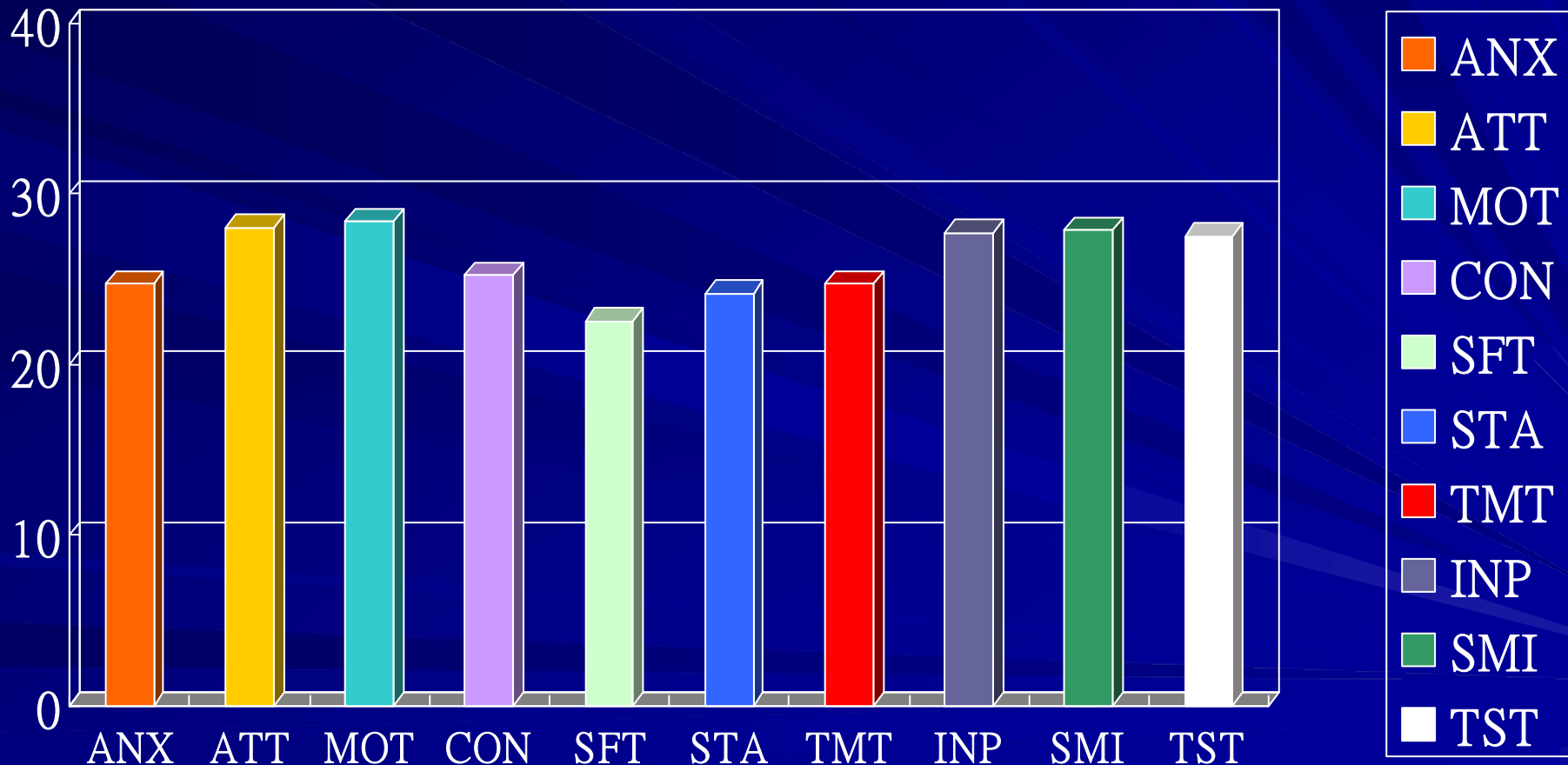


Score by Components of Strategic Learning

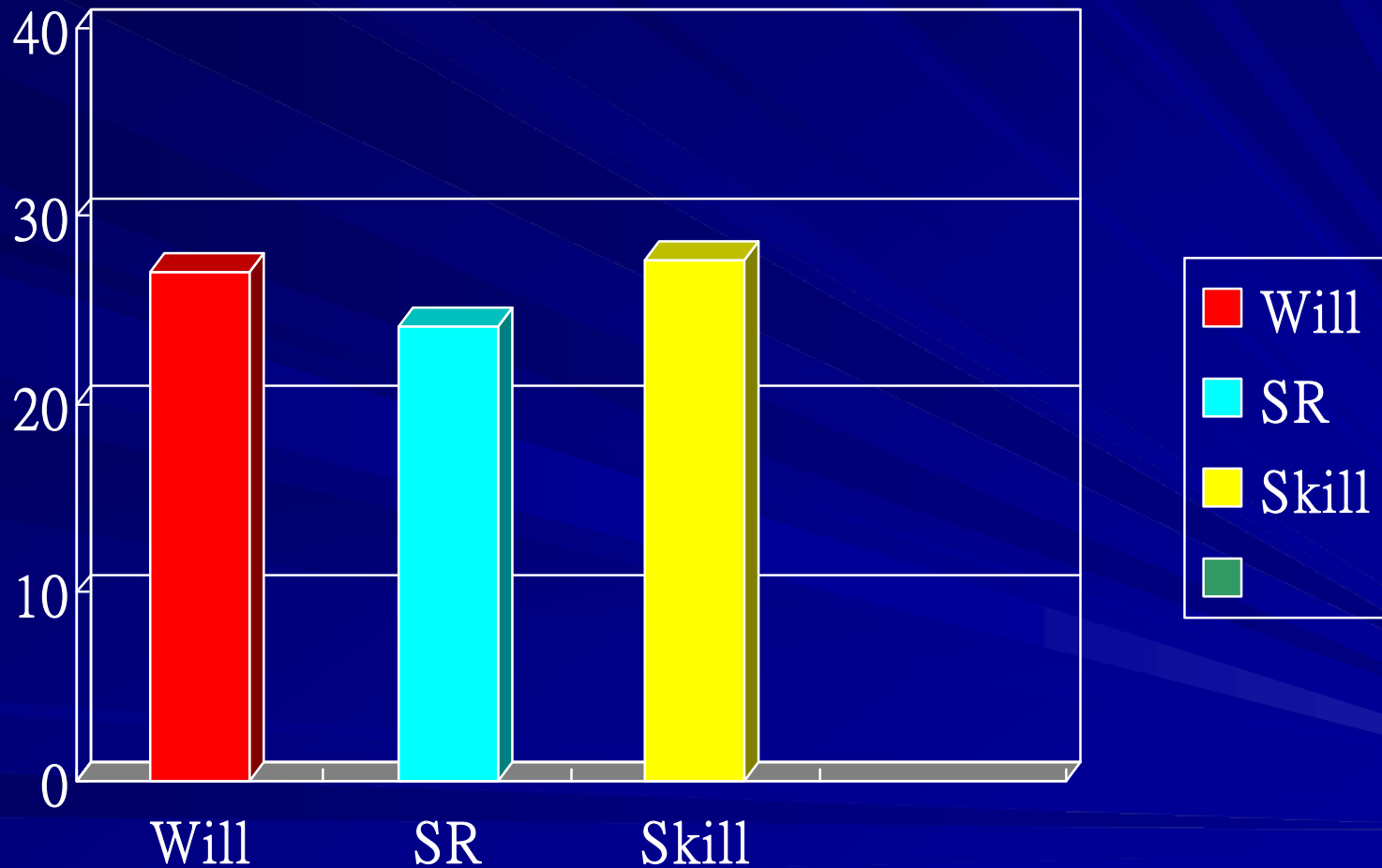


Results

Mean RAW Score of LASSI Scales Cohort 2007-08



Score by Components of Strategic Learning



Score by Gender

- T-test result shows that there is statistically significant difference ($p < 0.05$) between male and female students in the **Attitude** and **Study Aids** scales.
- This indicates that female shows **higher interests in academic success** and are able to make use of the resources available to help them more in their studies.

From Research to Practice

- Students with lower scores in these two scales should be helped to develop -
- Better understanding of **how university education relates to their future** and
- **Develop ability to use the resources** to help them learn more effectively.

Score by School

- Analysis using ANOVA shows that there is statistically significant difference ($p < 0.05$) between the schools in the Anxiety, Attitude, Motivation, Self-testing, Selecting Main Ideas, Test Strategies scales.

By School (cont)

- In specific, school 2 & 3 have statistical significant differences ($p < 0.05$) in Anxiety, Attitude, Self-Testing, Selecting Main Ideas, and Test Strategies,
- And there is statistically significant difference in Motivation, Selecting Main Ideas and Test Strategies between school 1 & 3.

From Research to Practice

- Further investigation is needed to examine the possible sources of these differences.
- They might be related to the discipline the students studied in secondary school (e.g. science versus art).

From Research to Practice

- Students with low score in each scale should develop techniques to overcome their weaknesses
- e.g. **Concentration**: Develop techniques to monitor and redirect their attention; and
- **Motivation**: Learn to set goals and accept responsibility of academic outcome.

A-level results

- The correlations between 8 of LASSI scales and students' A-level results are statistically significant.
- Regression analysis shows that together the 10 LASSI scales explained 11.6% of the A-level score variance.
- Specifically, it was found that students' Anxiety, Motivation, Self-testing and Study Aids have significant unique effect on the A-Level score.

A-level results (cont)

- This finding implies that students who can manage their anxiety, be motivated and able to use the right self-testing skills and study aids are likely to succeed.

A-level results (cont)

- For those who enter the university with less of these skills, we should help them to effectively reduce their anxiety in studies, set goals, accept responsibility in their studies, make use of resources available to them to study and monitor the level of understanding of the materials.

A-level results (cont)

- Further data analysis such as path analysis will provide understanding on the interrelationships of the variables and their impact on their academic results.

Future Research

- Collaboration with faculty
- CELT has planned to conduct two lines of studies. One is to conduct surveys into the learning attitudes and study strategies of students at HKUST such as this study.
- Investigation concerns how students learn when studying a particular course. These studies will be carried out in collaboration with the course instructors.

The END



THANK YOU VERY MUCH