A study examined subject choice for 16-year-olds (year 10 students) in schools in New South Wales (NSW), Australia. The sample contained students from 10 NSW coeducational government schools, 8 of which were in the outer-metropolitan regions of Sydney and 2 in a country region. In all, 1,048 students (528 males) who reported they were continuing to year 11 studies completed the questionnaire on subject choice. A total of 31 percent of students stated their current school did not offer the particular choice of subjects they wanted; 19.5 percent did not know whether their choice was available. Approximately 10 percent intended changing schools for the senior years; only 32 percent of them gave subject choice as the reason for the move. Seventy percent reported they were given the relevant information about subjects by their school; almost half sought information about subject choices from additional sources. Approximately half the students claimed they knew nothing about offerings at nearby schools; 26.7 percent said they knew a little. The majority of students (70 percent) said they received information from parents and/or teachers, with career advisors (64 percent) and friends (65 percent) also being consulted. Students gave other information sources—potential employers, work experience contacts, or other schools very high ratings. Most reported using multiple sources. (YLB)
Choice and information: Adolescents' subject selection in Australian schools

Pamela M. Warton
Macquarie University
Sydney, Australia 2109

Paper presented at the Annual meeting of the American Educational Research Association,
Chicago, IL, March 24-29 1997
Abstract

For the adolescent, choosing subjects at the end of compulsory schooling for entry into the senior years of secondary school is a decision of critical importance since the choices made have consequences far beyond the immediate in terms of later career paths. This paper reports data from a study which examines subject choice in New South Wales (Australian) schools. It asks about the information sources used by 16 year old (grade 10) students as they decide whether to continue postcompulsory schooling and make their subject selection. Results indicate a considerable lack of knowledge on the part of adolescents about options available to them. This study has provided little evidence that most adolescents treat subject choice as a deliberate planned exercise in which information about alternative courses of action should be sought. It is argued that without a sufficient information base there cannot be optimal decision making.
Introduction

This paper reports data from a study which examines subject choice for 16 year olds (year 10 students) in New South Wales (Australia) schools. For the adolescent, choosing subjects at the end of compulsory schooling for entry into the senior years of secondary school is a decision of critical importance. The choices made have consequences far beyond the immediate in terms of later career paths.

It has been argued previously that the "primary determinant of curriculum choice is what is available to choose from" (Lee, 1993, p.143). While schools in NSW vary little in the subjects they offer up to the end of compulsory schooling (year 10) there are wide variations in the range of subjects available for the final two years of secondary school. At the end of Year 12 students sit for a public examination (the Higher School Certificate - HSC) which acts as both an accreditation and as an entrance requirement for tertiary study. In theory, there are few restrictions on choice, apart from the requirement to complete English. Students choose a selection of subjects (they usually complete 11 units - most subjects are 2 units each) from the range available. In 1995 there were 81 subjects for examination at the NSW HSC, including vocational courses such as Accounting, Electronics and Hospitality. In addition, some schools include in their curriculum an extensive range of school designed subjects. Increasingly, with high retention rates (now 70% in NSW), schools have broadened the range of options open to the adolescent who chooses to continue at school. Nevertheless, in practice students are restricted by the choice available at their current school since no school, with the possible exception of the large senior high schools, have either the staff or resources to mount all the possible subject offerings.

Such differences across schools once meant that students were presented with unequal options, since students were unable to change schools. This is no longer the case since in 1989 a de-zoning policy was introduced. In effect, this meant that children were no longer required to attend the local school whose zone they resided in but, if places were available, could attend any other comprehensive school. Students could, in theory, choose to move to a school which offers the pattern of subjects they wish to complete.

These changes impact on the decision making processes. In terms of rational decision making, students need to have the information that makes informed choices possible. All schools provide students with information about their own offerings, but a given school is unlikely to actively promote the range of options available at a nearby school for fear of losing enrolments. It is reasonably easy, nonetheless, for students to obtain further information (eg about tertiary entrance or job requirements or offerings at other schools) from a variety of sources, both formal and informal. If the process of subject choice is a deliberate, planned exercise on the part of adolescents it would be expected that adolescents would engage in this information seeking exercise of options, facts and effects of their choices. Moreover, it would be
expected that students would seek information from sources perceived as providing valuable information.

**Method**

**Sample**

The sample comprised year 10 students from 10 NSW coeducational government schools, eight of which were in the outer-metropolitan regions of Sydney, Australia (a city of approximately 4 million people) and two in a country region of NSW. Schools were chosen to illustrate the range of vocational and academic offerings available to senior students. For all schools chosen, there was at least one other government school in the vicinity which offered a different range of subjects, and for six of the schools, including the country schools, there was a government senior high school nearby.

Schools were deliberately selected so that they varied little in terms of standard socio-economic indicators such as occupation and education level of parents, in order that the effects of subject choices could be more clearly examined. In general, the sample came from middle to low socio-economic areas with 14% (n = 157) of the students born outside Australia. Most students (77%) were from two parent families, and 65% of the mothers were employed. Approximately 5% of the parents were reported as being unemployed.

No attempt was made to standardise the information provided by schools to their pupils about subject choices for year 11. Each school, however, provided students with a comprehensive booklet which outlined the choices available and gave brief subject descriptions along with requirements for the awarding of the HSC at the end of year 12.

In all, 1048 students (528 males) who reported they were continuing to year 11 studies completed the questionnaire on subject choice, while a further 158 students who indicated that they were leaving school at the end of year 10 filled out a shorter questionnaire on career choice (these latter results are not reported here). This constituted the entire year 10 cohort in the 10 schools, except for a small number (about 1%) of non serious responses. School size varied: the number of useable questionnaires on subject choice within each school varied from 72 to 155.

**Questionnaire**

The questionnaire covered a range of questions on current subjects, reasons for returning to year 11 and the subjects they intended to choose. This paper focuses on the questions to do with sources of information. Students were asked: (1) whether or not their preferred choice was available at their current school and if not, whether or not they were going to move schools to gain their choice; (2) how they obtained information about subjects; (3) whether the information provided by the school was helpful and adequate; and (4) whether or not they knew anything about the offerings at nearby schools. A four point response scale was used. They were also given list of possible sources of information about subject choice.
(parents, older siblings, other relatives, friends, career advisers, students in older years, teachers/school, other sources). For each information source nominated, students were asked to assess the usefulness of information.

Procedure

Once the appropriate permissions (from the NSW Department of School Education, school principals and year 10 pupils) were obtained, arrangements were made for the administration of the questionnaire. In all but one school, the decision by the school executive was to distribute the questionnaire some days after students had submitted their subject choices for the following year. In the remaining school, the questionnaire was completed before students made their choices.

The questionnaires were completed by all year 10 students during class time, under the supervision of their usual teachers. A research assistant was available to answer any queries. On average, the questionnaire took approximately 40 minutes to complete.

Results

The first questions of interest were whether or not students were familiar with the range of offerings at their own school, and intending moving for their senior years. In total, 314 students (31% of responses) stated that their current school did not offer the particular choice of subjects they wanted. A further 19.6% did not know whether or not their choice was available. Approximately 10% of the entire sample intended changing schools for the senior years, and although a disproportionate number of these students said that their current school did not offer their preferred choice of subjects, subject choice was by no means the only reason for moving. Indeed, only 32% of those intending to move gave subject choice as the reason.

In terms of information about subjects, 70% of students reported that they were given the relevant information by their school - a surprisingly low figure, since all schools surveyed had distributed extensive information booklets to their students. Almost half the students sought information about subject choices from additional sources. Despite this, the information provided by the school was generally regarded as helpful and adequate, although 15% of the sample did suggest that the school needed to provide more detail.

Students were then asked to rate on a 4 point scale what they knew about year 11 subjects at nearby schools (1 = nothing, 2 = a little, 3 = something, 4 = a lot). The mean rating of level of knowledge was 1.86 with approximately half of the students (48.3%) claiming that they knew nothing about offerings at nearby schools, and a further 26.7% saying they knew a little. This ignorance is not surprising, given that schools did not actively encourage their students to leave, by providing information about offerings elsewhere. When students were classified according to their proximity to a senior high school, there were some significant differences as a function of proximity with students from schools close to a senior high school reporting more knowledge. In both groups, however, the overall level of information was low.
Table 1. Knowledge of offerings at other schools by proximity to a senior high school.

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Little</th>
<th>Some</th>
<th>A lot</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close to Senior High</td>
<td>41</td>
<td>26</td>
<td>20</td>
<td>13</td>
<td>100</td>
</tr>
<tr>
<td>Distant from Senior High</td>
<td>57</td>
<td>27</td>
<td>10</td>
<td>6</td>
<td>100</td>
</tr>
</tbody>
</table>

The numbers in the table are row percentages

Students were also asked from whom they obtained their information about subject choices. They were presented with a list and checked those they consulted as well as rating each source for the usefulness of the information provided. Table 1 gives the mean usefulness rating for each of the possible sources, along with the percentage of the sample which nominated each source. The majority of students (70%) reported that they received information from parents and/or teachers, with career advisers (64%) and friends (65%) also being consulted by a high proportion of the sample. The sources students were most likely to consult, however, were not necessarily seen as providing the most useful information. The small percentage of students (15%) who sought other information sources (usually, potential employers, work experience contacts, or schools other than the one at which they were currently enrolled) gave this information source a very high rating (3.58 on a 4 point scale). Teachers and career advisers were also rated highly (mean ratings above 3), while friends and parents (2.85) were rated as providing less useful information than school authorities. Relatives other than parents or older siblings were rated as providing the least useful information overall (2.37).
Although students could consult as few or as many information sources as they wished, most reported using multiple sources, with the mean number of sources being 3.9. Some patterns of information use were apparent from the data. Almost half the students (n = 488) consulted both the career advisers and other teachers, and rated the usefulness of the information provided in a consistent fashion (r=.43, p < 0.01). In contrast, although a similar number of students (477) used information from both parents and career advisers, there was no consistency in the usefulness ratings for the two sources (r =. 02). Another large group (n = 382) reported using both other students and friends as information sources, again consistently (r = .44, p < 0.01). Clearly, these groups overlap in that a number of students consulted three or four of these popular sources (career adviser, teacher, parents, and friends) but it is noteworthy that the information gained was not regarded in an identical manner.

Discussion

A disturbing picture of lack of knowledge about subject choices emerged: approximately 20% of the sample were unable to say whether or not their chosen subjects were available at their current school while 30% of the sample reported receiving no subject information from their school. The implications of such ignorance are clear. Adolescents are unlikely to make optimal choices in terms of future vocations if their base knowledge is so lacking. It is not a matter of availability of information. Despite the claims of some students, all schools surveyed had distributed comprehensive booklets outlining possible options for years 11 and 12 and ensured that all students received the information. We can be relatively certain that the information in a basic form had been given to all students. For additional assistance, schools had organised information evenings for parents and students. The problem clearly is a matter of accessing that information and recognising the information as sufficiently important to attend to. Schools have some way to go in their efforts to help students use the information that is already available to them.

It may be argued that with few exceptions (e.g. engineering), subject choice has minimal relevance to future careers, in that overall levels of attainment are of greater significance. This may be the case, but the choice of subjects certainly impacts on the possible levels of attainment and few students appear to seek advice that will give them the greatest opportunities.

It is not surprising, given this lack of knowledge about offerings at the school of current enrolment, that three quarters of the sample knew nothing or very little about offerings at neighbouring schools. There is some indication that students near Senior High schools know more about offerings at that school, but this increased knowledge about offerings is not necessarily a reflection of a deliberate search for subject choice information by the adolescents. Students are attracted to such schools for a variety of reasons, many of them related to the perceived social environment and may receive subject information in an incidental manner. In
this regard, there may be gender differences in the information obtained, given the various friendship patterns in adolescence (see Warton & Cooney, in press, for a discussion of this).

One pleasing aspect of the study is the evidence that students distinguish between friends, parents, and teachers or career advisers in terms of usefulness of information. This is consistent with previous findings (e.g. Wilks, 1986; Wilks & Orth, 1991) that suggest adolescents rate parental guidance for both educational and vocational decisions as more important than guidance from friends. Adolescents do not necessarily consult parents and teachers more frequently on subject choice than their friends but it appears that their advice is recognised as more useful and, presumably, is more often followed.

In conclusion, these findings suggest that the policy decision to increase the range of options for students by allowing them to change schools is having limited impact: few students seek information about alternatives and fewer still make the decision to change schools based on subject choice alone. This study has provided little evidence that most adolescents treat subject choice as a deliberate planned exercise in which information about alternative courses of action is systematically sought. Unless options and facts are known there can be little effective decision making, regardless of who influences that decision. Given that most students say they consult teachers and/or career advisers perhaps one important emphasis that needs to be made by these professionals is to explicitly encourage students to broaden their horizons, and seek information about subjects offered elsewhere. Subject choice is too important a decision to be left to the less than perfect planning and reasoning of the average 16-year-old.

References
Warton, P.M. & Cooney, G.H. (in press) Information and choice: Subjects in the senior school British Journal of Guidance and Counselling

ACKNOWLEDGEMENTS I thank the principals, staff and year 10 students of the schools involved for their willing co-operation. This research was supported by an Australian Research Council small grant to Dr Pamela Warton and Professor George Cooney.
I. DOCUMENT IDENTIFICATION:

Title: CHOICE AND INFORMATION: ADOLESCENTS
SUBJECT SELECTION IN AUSTRALIAN SCHOOLS

Authors: AMELIA M. WARTON

Corporate Source: MACQUARIE UNIVERSITY
SYDNEY, AUSTRALIA

Publication Date: 

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Service (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce the identified document, please CHECK ONE of the following options and sign the release below.

[ ] Permitting microfiche (4"x 6" film), paper copy, electronic, and optical media reproduction

[ ] Permitting reproduction in other than paper copy.

Level 1

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Sample
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Level 2

"PERMISSION TO REPRODUCE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY
Sample
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Sign Here, Please

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is checked, documents will be processed at Level 1.

"I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries."

Signature: P.M. WARTON
Printed Name: AMELIA M. WARTON

Position: SNC LECTURER
Organization: MACQUARIE UNIVERSITY
Telephone Number: +61 (2) 9850-8651
Date: 22nd March 1997

Address: SCHOOL OF EDUCATION
MACQUARIE UNIVERSITY
SYDNEY, AUSTRALIA 2109

OVER
February 21, 1997

Dear AERA Presenter,

Congratulations on being a presenter at AERA\(^1\). The ERIC Clearinghouse on Assessment and Evaluation invites you to contribute to the ERIC database by providing us with a printed copy of your presentation.

Abstracts of papers accepted by ERIC appear in *Resources in Education (RIE)* and are announced to over 5,000 organizations. The inclusion of your work makes it readily available to other researchers, provides a permanent archive, and enhances the quality of *RIE*. Abstracts of your contribution will be accessible through the printed and electronic versions of *RIE*. The paper will be available through the microfiche collections that are housed at libraries around the world and through the ERIC Document Reproduction Service.

We are gathering all the papers from the AERA Conference. We will route your paper to the appropriate clearinghouse. You will be notified if your paper meets ERIC’s criteria for inclusion in *RIE*: contribution to education, timeliness, relevance, methodology, effectiveness of presentation, and reproduction quality. You can track our processing of your paper at http://ericae2.educ.cua.edu.

Please sign the Reproduction Release Form on the back of this letter and include it with two copies of your paper. The Release Form gives ERIC permission to make and distribute copies of your paper. It does not preclude you from publishing your work. You can drop off the copies of your paper and Reproduction Release Form at the ERIC booth (523) or mail to our attention at the address below. Please feel free to copy the form for future or additional submissions.

Mail to: AERA 1997/ERIC Acquisitions
        The Catholic University of America
        O’Boyle Hall, Room 210
        Washington, DC 20064

This year ERIC/AE is making a Searchable Conference Program available on the AERA web page (http://aera.net). Check it out!

Sincerely,

Lawrence M. Rudner, Ph.D.
Director, ERIC/AE

\(^1\)If you are an AERA chair or discussant, please save this form for future use.