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Student Perceptions of Geography in Ontario Secondary Schools

Introduction

I feel geographic studies in this province [Ontario] are at a crossroads. Trends which occur in our schools will ripple into our post-secondary institutes. If enrollment fades now in the face of new curriculum structure, our discipline will fade away into a deep dark corner ... To attract students to geography programs is a difficult job in a secondary school ... If a subject is seen to be useful, it has a place in the students' timetable ... Present

public opinion does not really consider geography to be a very important subject when compared to math, English or business ... If we give our students the same impression [as past generations] to pass along to the next generation then our discipline will be lost (Knapp 1987).

Many forces are influencing high school geography. Among these are changing student motivation and preference. To some degree there are growing demands in high schools for courses that are per-

ceived to support career intentions or address important societal issues. Although most high school students are undecided about long term goals, courses with practical content have become increasingly attractive. In order to retain or increase enrollments, the ability of geography to project the relevance of the concepts, knowledge base and skills of its syllabus is critical.

The paper investigates high school students' perceptions of the relevance of geography. It is based on the results of questionnaire responses by 1869 advance-stream students in 28 Ontario high schools.

However, in addition to students' perception of relevance, there are a number of other significant changes in the secondary school system of Ontario which have direct implications for the health of geographic education. These include changes in total student enrollment, the introduction of new OSIS (Ontario Schools: Intermediate and Senior Divisions) curriculum guidelines (Ontario Ministry of Education 1984), and the creation of the Ontario Academic Credit system. More generally, in recent years a number of organizational changes have affected geography:

1. several new offerings such as law, economics and family studies have been introduced;
2. 'territorial competition' among overlapping disciplines has meant that some traditional areas of geographical concern, notably in the case of environmental studies, have been integrated into other curricula.¹ Not only has there been a net loss to the geographic curriculum, but as a result geography has not been able to capitalize fully upon the growth in awareness and concern for specific issues; and
3. geography enrollment has suffered from structural changes in the curriculum with a reduction in the compulsory number of geography courses to only one in either of the first two years.

Although the 1980s have seen relative stability in the total enrollment in geography courses, over the longer term there has been a decline (both in absolute and relative terms) of enrollment in secondary school geography courses in Ontario — a decrease of 21.2 percent in student numbers since 1972 and of 10.4 percent since 1980 (Figure 1). Furthermore, ge-

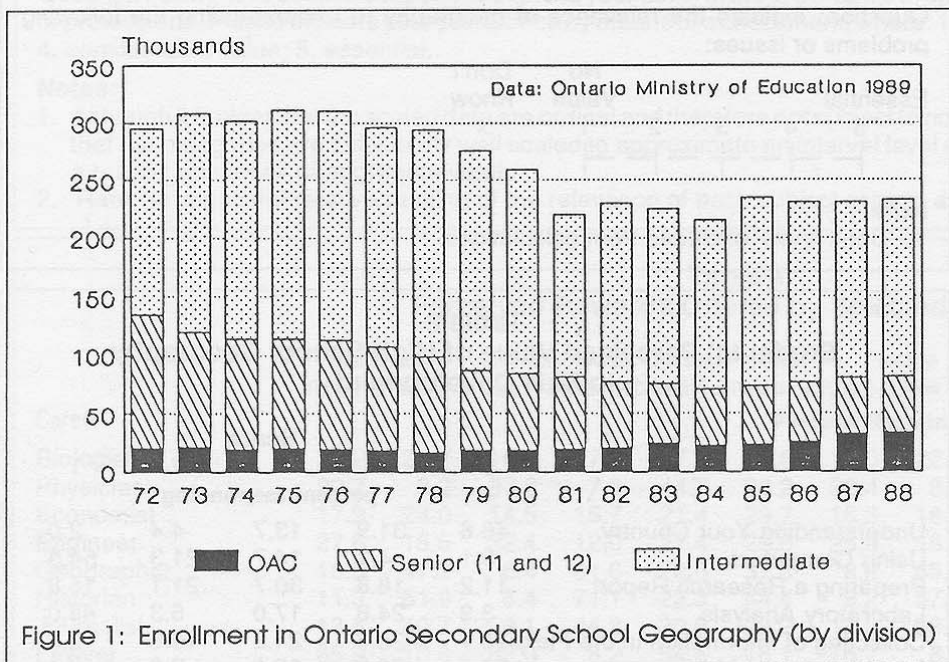


Figure 1: Enrollment in Ontario Secondary School Geography (by division)

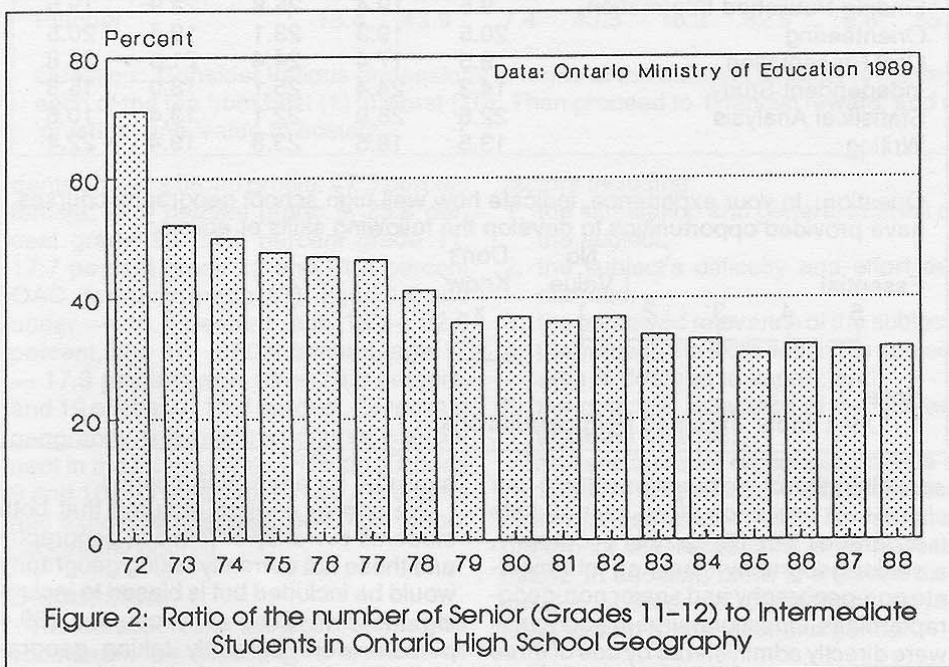


Figure 2: Ratio of the number of Senior (Grades 11-12) to Intermediate Students in Ontario High School Geography

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ography, which made up in excess of 35 percent of all social science course enrollment in the early 1970s, today has less than 25 percent. Geography displays a significant failure to retain students beyond the end of the Intermediate level (i.e., Grades 9 and 10)². Moreover, this inability has become more dramatic over time (Figure 2).

Changes in the Ontario high school system have raised serious concerns about the future of geography in the province. It appears that the Ontario situation is comparable to that elsewhere (Fincher 1985). The issue of declining enrollment in high school geography warrants extensive examination since it represents a tangible erosion of the discipline *per se*, in its perceived role, in its ability to attract students at the university level, and in the development of future geographers.

Data Collection

Various studies of high school and first year undergraduate students have investigated students' attitudes toward geography (e.g., McTeer 1979; Bramwell 1987; Clark and Taylor 1984; Given 1989). They have focussed on a number of attributes which relate to potential enrollment such as subject difficulty, timetabling problems, teacher proficiency, teaching mode, and the vitality of the curriculum.

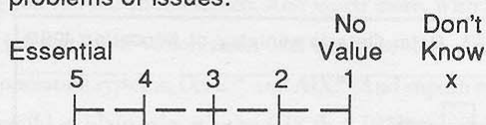
This paper focusses on the perceptions of geography by students in the Ontario high school system. A questionnaire was designed to elicit data concerning students' perceptions of the general 'relevance' of geography. It contained four broad sets of questions. One obtained opinions about the ability of geography to address various societal problems. A second section solicited opinions on the value of geography in acquiring various skills. A third measured the perceived relevance of six discipline areas — mathematics, economics, biology, history, family studies and geography — to various career opportunities. The final section asked students to evaluate differences in the rewards afforded by individual professions including 'geographer.'

The survey involved 1869 advance-stream students in 28 Ontario high schools. Appointments were arranged in May 1989 with individual geography teachers, the majority of whom had in the past contacted the School of Applied Geography at Ryerson Polytechnical Institute for information about the program. Schools were specifically selected to represent a broad spectrum — schools from both public and separate school boards, in urban and rural areas, and distributed throughout the province including both northern and southern areas. Each teacher obtained approval from the appropriate authorities for the

Table 1
Students' Perception of the Relevance of Geography to Understanding Selected Societal Problems

	Score				
	5	4	3	2	1
	percent responding ¹				
Global Resource Consumption	50.4	24.7	13.3	3.5	2.2
Free Trade	20.5	25.9	27.8	15.0	8.7
The Real Estate Market	17.3	23.0	28.8	17.8	10.4
Loss of Farmland	53.2	26.7	12.2	4.4	1.9
Nuclear and Toxic Waste Disposal	54.2	24.4	11.8	4.8	2.6
Provision of Daycare Facilities	4.8	8.9	22.3	26.9	37.1
Business Decision Making	8.7	13.2	23.3	25.3	26.5
Environmental Deterioration	65.6	19.3	8.0	3.9	1.2
Transportation Congestion	33.3	29.2	23.7	8.6	5.1
Poverty and Homelessness	22.5	24.3	23.4	17.0	10.8
Loss of Wildlife	58.6	22.9	11.3	3.8	2.1
National Immigration Policy	29.1	25.7	22.3	12.8	10.0
The Elderly	6.4	11.8	20.8	22.9	34.6

Question: Indicate the relevance of geography to understanding the following problems or issues:



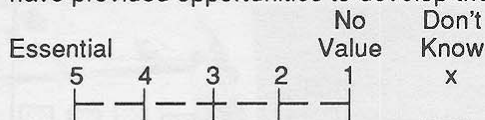
Note:

1. 'Don't know' excluded from calculations.

Table 2
Students' Perceived Value of High School Geography in Skill Development

	Score				
	5	4	3	2	1
	percent responding ¹				
Understanding Your Country	46.6	31.9	13.7	4.4	2.0
Using Computers	3.1	4.1	14.7	21.3	54.5
Preparing a Research Report	11.2	18.8	30.7	21.1	15.8
Laboratory Analysis	3.9	24.8	17.0	6.3	48.0
Collecting of Information in the Field	18.7	25.6	24.3	16.6	12.3
Interpretation of Maps	53.8	26.9	12.1	3.6	2.1
Finding Published Information	9.5	19.4	25.8	22.9	19.5
Orienteering	20.5	19.3	23.1	19.4	20.5
Oral Presentation	9.5	17.4	24.4	21.5	24.8
Independent Study	14.3	24.4	25.1	18.0	15.8
Statistical Analysis	22.6	26.0	22.1	13.4	10.6
Writing	13.5	18.5	23.8	19.4	22.4

Question: In your experience, indicate how well high school geography courses have provided opportunities to develop the following skills or abilities.



Note:

1. 'Don't know' excluded from calculations.

administration of the questionnaire to four classes — one each of an intermediate (i.e., Grades 9 or 10) class in geography, a senior geography class, an intermediate non-geography and senior non-geography class. Questionnaires in each class were directly administered by one of three senior university students who remained

available for answering queries.

The survey method ensured that both students currently enrolled in geography and those not currently taking geography would be included but is biased to including those in geography courses (69.4 percent were currently taking geography). The general character of respon-

Table 3
Evaluation of the Relevance of Selected High School Subject Areas to Selected Career Areas

	Subject Area											
	Mathematics		Economics		Biology		History		Family Studies		Geography	
	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank	Mean Score	Rank
Urban Planning	3.5	3	3.7	2	2.7	4	1.7	6	2.7	4	4.6	1
Tourism	2.6	3	3.4	2	2.2	5	1.6	6	2.5	4	4.3	1
Environmental Planning	3.4	4	3.5	3	3.9	2	1.7	6	2.4	5	4.6	1
Resource Management	3.6	3	3.9	2	3.4	4	3.1	5	2.3	6	4.2	1
Real Estate Development	3.9	2	4.1	1	2.1	6	2.9	4	2.4	5	3.9	2
Business and Commerce	4.5	1	4.5	1	1.9	6	2.7	4	2.2	5	2.8	3
Civil Service	3.3	1	3.3	1	2.3	6	3.0	3	2.9	4	2.9	4
Teaching	4.1	1	3.3	5	3.3	5	3.8	2	3.5	3	3.3	5
Social Services	3.0	3	3.1	2	2.4	6	2.8	4	3.8	1	2.6	5
Medicine	4.3	2	3.1	3	4.6	1	2.9	4	2.8	5	2.2	6
Journalism	2.7	4	3.1	2	2.1	6	3.6	1	2.3	5	3.0	3
Engineering	4.5	1	3.4	2	2.5	4	2.5	4	1.8	6	2.8	3
Law	3.5	3	3.7	1	2.1	5	3.7	1	2.3	4	1.7	6

Question Form: This section asks you to express your belief in the importance of specific high school courses to various careers or professions. Please indicate your preference by means of a checkmark; where: 1. no value; 2. some value; 3. moderate value; 4. considerable value; 5. essential.

- Notes:**
1. Although it is clear that the scaled data are ordinal and therefore not subject to normal mathematical manipulation, we believe that the categories are sufficiently well scaled to approximate an interval level of measurement. Thus the mean represents a reasonable index of aggregate worth.
 2. 'Rank' refers to the relative ranking of the relevance of each subject area to a specified career area.

Table 4
Perceived Rewards Offered by Selected Careers

Career	Job Security		Financial Reward		Personal Interest		Prestige		Value to Society		Overall		Relative Rank
	Rank 1-3	Rank 8-10	Rank 1-3	Rank 8-10	Rank 1-3	Rank 8-10	Rank 1-3	Rank 8-10	Rank 1-3	Rank 8-10	Rank 1-3	Rank 8-10	
	Percent Responding												
Biologist	22.2	20.7	16.3	17.0	27.9	31.6	17.0	22.2	30.0	22.5	22.7	22.8	(5)
Physician	82.7	8.2	87.8	7.3	44.7	20.2	85.4	8.3	88.3	6.9	77.8	10.2	(1)
Economist	17.9	24.0	14.5	15.7	21.4	29.7	16.3	18.5	18.7	22.9	17.8	22.2	(6)
Engineer	27.6	15.5	32.4	12.0	27.4	29.6	25.8	18.5	28.4	19.5	28.3	19.0	(4)
Geographer	10.5	47.2	6.4	61.6	22.6	37.3	8.2	55.0	12.5	47.5	12.0	49.7	(9)
Historian	11.3	61.9	6.4	71.1	22.3	44.4	9.2	57.5	9.4	63.2	11.7	59.6	(10)
Journalist	13.6	40.7	8.1	44.3	30.6	28.2	13.8	33.3	16.9	40.1	16.6	37.3	(7)
Lawyer	65.9	10.6	82.0	8.2	54.8	16.1	76.7	8.8	52.9	15.9	66.5	11.9	(2)
Psychologist	33.8	18.6	47.2	10.6	38.6	21.1	41.9	15.6	29.6	27.2	38.2	18.6	(3)
Planner	13.4	43.9	7.4	43.3	16.2	42.8	8.8	55.1	23.7	30.1	13.9	43.0	(8)

Question: Consider various professions in terms of the different kinds of rewards they offer. Begin with 'job security' and rank each of the ten from best (1) to worst (10). Then proceed to 'financial reward' and do the same. Continue to 'personal interest,' 'prestige' and 'value to society.'

dents shows a broad profile: 47.3 percent female; 21.9 percent grade 9, 25.4 percent grade 10, 14.0 percent grade 11, 17.7 percent grade 12 and 21.4 percent OAC (formerly grade 13); aged 14 and under — 10.7 percent, age 15 — 22.0 percent, age 16 — 20.8 percent, age 17 — 17.3 percent, age 18 — 18.3 percent, and 19 or over — 10.7 percent. Given that geography is a required course component in the Intermediate Division (Grades 9 and 10), all but some Grade 9 students had exposure to at least one high school geography course.

Discussion

The attraction of a subject area may be considered as reflecting a number of

factors including:

1. the stimulation and general interest of the subject;
2. the subject's difficulty and effort demanded;
3. the perceived relevance of the subject;
4. the value of the skills which the subject area is deemed to impart; and
5. the potential relevance of the subject to career choices.

The questionnaire responses provide a perspective on students' views of the last three of these components. The general pattern of the responses is addressed below. In addition, there is a limited discussion of students' perceptions as related to both grade level and gender.

Relevance of Geography to Societal Problems

Students were asked to scale the importance of geography in addressing 10 major societal problem areas (Table 1). The results reveal a consensus that geography contributes most to an understanding of those issues with a broad environmental content: 'environmental deterioration,' 'loss of wildlife,' 'nuclear and toxic waste disposal,' 'loss of farmland,' and 'global resource consumption.' Those issues relating more to urban and social concerns rated less highly — in some cases the perceived relevance was quite low. Few students saw the relevance of geography to 'business decision

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making,' 'provision of day care facilities' and 'the elderly.'

There has been a general erosion of geography's role in the high school curriculum involving environmental studies. The dominance of that area as an 'attractant' of students to geography is foreboding. It is also worth noting the authors' belief that many of those issues rated less highly by students are those in which 'geographic relevance' is most salient both from the point of view of general as well as possible professional interest.

Ability of Geography Courses to Provide Foundation Skills

Geography must satisfy a wide range of educational objectives (Bunce 1986). One strength of geography cited by educators is its implicit development of a variety of skills, both basic and spatial. Certainly, the new OSIS curriculum guidelines in Ontario contain that emphasis.

A variety of skills which are fundamental to high school education in general and geography in particular were presented to the students (Table 2). Students were asked to consider the opportunity which the discipline provides to develop these.

Not surprisingly, 'interpretation of maps' and 'understanding your country' were rated most highly. The discipline was perceived by a large portion of students as much weaker in providing many of the basic skills, specifically those involved in research — 'using computers,' 'laboratory analysis,' 'oral presentation,' 'writing,' 'finding published information,' and 'preparing a research report.' However, a sizeable proportion did feel that geography provided data collection and statistical analysis skills.

Due to length restrictions, our questionnaire did not solicit data allowing for a comparison between subject areas. As a result, the degree to which this is a reflection of the student's 'compartmentalization' of certain skills with specific courses, and not any true weakness in geography *per se*, is not clear.

Potential Relevance of Geography to Career Choices

Table 3 shows the students' perception of the relevance of various high school subjects to twelve selected career areas. Despite the traditional link between geography and several of the careers listed, economics was perceived as most valuable overall, followed by mathematics. Geography ranked third in mean score. Predictably, geography is seen to lead in four career opportunities: urban and regional planning, environmental planning, resource management, and tourism. However, its perceived relevance to other areas, especially teaching and law, is comparatively low.

'Geographer' is not a well identified career choice for almost all high school students (and indeed for most undergraduates). Nonetheless, it is perhaps informative to consider the relative perception of a geographic career. Table 4 compares the perceived rewards afforded by selected careers in the form of job security, income, personal interest, prestige and social contribution.

Not surprisingly, medicine and law rank highest in all categories. Other than history, geography provided the lowest composite rating. That these two are lowest ranked is perhaps not surprising given the low degree of identification of each as a 'career.' Possibly more enlightening is the fact that the clearly identified

career of planner, often closely tied to geography, is perceived as offering the third lowest level of rewards.

Given the image of geography as a discipline of broad interest and considering that the majority of students responding were enrolled in a geography course, the low rankings of the geographer, especially in 'personal interest' and 'value to society,' are remarkable.

Difference by Grade Level

Senior students might be expected to perceive more clearly the relevance of geography. Our data do not support this view. Considering that the societal problems listed in Table 1 were selected for geographical relevance, it is perhaps

**Table 5
Percent of Students Indicating an 'Essential' Relevance of Geography to Understanding Selected Societal Problems, by Grade**

	Grade				
	9	10	11	12	OAC
Global Resource Consumption	41.4	49.7	50.2	59.3	66.7*
Free Trade	18.9	26.2	17.9	20.0	21.9
The Real Estate Market	17.6	14.1	17.6	24.3	15.8
Loss of Farmland	69.1	54.3	52.2	54.2	60.8
Nuclear and Toxic Waste Disposal	49.1	56.8	59.0	50.8	60.5
Provision of Daycare Facilities	5.4	4.7	7.3	3.9	3.1
Business Decision Making	13.6	7.2	9.5	10.6	8.7
Environmental Deterioration	57.3	65.1	65.7	71.7	76.9*
Transportation Congestion	28.5	28.2	34.9	38.1	38.5*
Poverty and Homelessness	19.5	22.6	19.8	22.4	28.7
Loss of Wildlife	55.8	59.6	61.8	56.3	64.4
National Immigration Policy	27.1	31.8	23.4	25.9	34.1
The Elderly	9.8	7.3	4.9	4.2	5.2

*trend significant at 0.05 level
Question Form: See Table 1.

**Table 6
Male/Female Enrollments in Ontario High School Geography Courses (1988)**

	Male	Female	Total	Percent
Intermediate (Grades 9 and 10)				
Canada	72,663	68,298	140,961	48.5
Europe and Asia	5,951	3,219	9,170	35.1
Total Intermediate	78,952	71,791	150,743	47.6
Senior (Grades 11 and 12)				
Physical Geography	14,875	7,605	22,480	33.8
Urban Studies	4,893	2,711	7,604	35.7
Human Geography	4,217	2,929	7,146	41.0
Regional Geography	3,965	2,841	6,806	41.7
Environmental Science	920	493	1,413	34.9
Geology	837	362	1,199	30.1
Total Grades 11 and 12	30,667	17,507	48,174	36.3
Senior (OAC)				
World Issues	11,153	11,650	22,803	51.1
Canada	5,767	4,781	10,548	45.3
Total OAC	17,044	16,542	33,586	49.3
Total All Grades¹	126,663	105,840	232,503	45.5

Source: Ontario Ministry of Education 1989

Note:

1. Totals include several other courses not listed which are available at each level. In each, total enrollment is less than 650.

surprising that, as grade level increases, significant trends in students' perception of the relevance of geography are apparent in only three of the 13 societal problems listed. There was a greater recognition of two general environmental issues (i.e., 'global resource consumption' and 'environmental deterioration'), and of 'transportation congestion' among students in higher grades (Table 5).

The general nature of these results was consistent throughout. The image of geography as a relevant discipline is somewhat higher among students in higher grades; however, there is no steady evolution of students' perceptions.

Gender Differences

Lee (1985) observes that geography in the United Kingdom has been less able to attract female students than have other subject areas which have had a traditional 'male' appeal. Generally, gender differentiation may account for the choice of geography as a school subject (Bramwell 1987). The same general situation appears in Ontario. In 1988 49.0 percent of the 641,521 students in Ontario secondary schools were female. In geography courses the proportion was somewhat lower — 45.5 percent (Table 6). Particularly noteworthy is the low proportion of female students in Grade 11 and 12 geography courses — especially in the course with the largest enrollment, Physical Geography. In OAC geography courses the proportion of females is higher even than that in the overall school population — in World Issues, females outnumber males. These observations have been generally consistent over a number of years.

Our results offer little in the way of explaining the gender differences in the appeal of geography. Indeed, instead of showing a lower perception of geography's value among female students, the opposite appears the case. By way of illustration, in considering the relevance of geography to specific careers, significant differences in the responses of males and females exist for 5 of the 12 career choices. In each of these cases, females perceived a higher relevance for geography (Table 7). Given the higher proportion of female students in OAC geography courses, it appears that it is the specific course offerings (notably, Physical Geography) which may account for the drop in female students choosing geography in Grades 11 and 12 and not some general aversion to geography *per se*.

Concluding Remarks

The pressures being exerted on geography in the Ontario high school system have left the discipline with a somewhat precarious future. The possibility exists that it will become more and more peripheral if student numbers drop and curricular changes permit the erosion of the

Table 7
Percent of Male and Female Students Responding
'Considerable Value' or 'Essential'
re Geography's Relevance to Specific Careers

	Male	Female
Urban Planning	90.6 %	93.2 % *
Tourism	80.3	86.9 *
Environmental Planning	90.5	93.0 *
Resource Management	79.4	77.3
Real Estate Development	66.7	67.0
Business and Commerce	25.7	29.4
Civil Service	21.6	24.4
Teaching	45.4	53.3 *
Social Services	17.9	21.1
Medicine	11.2	13.3
Journalism	34.2	37.6 *
Engineering	31.5	30.4
Law	14.7	17.9

* - difference significant at 0.05 level

Question Form: See Table 3.

subject's content. A 1981 report prepared for the Executive of the Ontario Association for Geographic and Environmental Education (OAGEE) provided a statistical analysis of secondary school geography in the province at that time (OAGEE 1981). The observations and projections have proven generally accurate through the past decade. Student numbers have stabilized somewhat, but the situation is much the same.

The value and attraction of geography reflect the extent to which the subject satisfies a broad range of educational objectives of understanding, personal development, and enrichment. Only a portion of this relates to its 'relevance.' Increasingly, however, it is the subjects which are perceived as being relevant which are attracting students. Given this, then high school geography will benefit from efforts to establish that:

1. geography is a legitimate profession, particularly when pursued at the post secondary level;
2. there is a market for graduates with geographic knowledge and skills that society, in general, and employers, in particular, value; and
3. the high school curriculum is capable of introducing this knowledge and set of skills.

The responses of high school students in this study raise some doubt about the treatment of geography and the high schools' ability to nurture the discipline beyond the narrow confines of regional studies, mapping, and world issues. Our results reflect those of Clark and Taylor's (1984) survey of high schools in the Hamilton-Burlington area (Ontario) which found that students generally perceived geography as low in terms of 'analytical demands', 'usefulness,' and 'relevance.' Geography is not seen as a rapidly evolving subject with specific career prospects (Fincher 1985). The situation is not as

dramatic as in the U.S. where Ligocki (1982) has suggested, "the word *geography* should be eliminated from high school course titles" in order to improve interest in geography among high school students and strengthen geographic education. Nonetheless, serious concerns remain.

Even when the relevance of geography to such pressing issues as the environment are acknowledged, the question still remains, "Have students been shown that geography deals with absorbing issues and provides useful skills?" In many respects, the perception of geography remains as a descriptive rather than analytical discipline arising in part from its emphasis on large problems which cannot be easily resolved by individuals.

The future of geography depends on the ability of secondary school teachers to ignite student interest, demonstrate its role in understanding and contributing to the solution of a wide range of problems, and convey the connection between attractive careers and geographic education. The failure to project the full range of job opportunities that are available to the professional geographer, in part, may be attributed to a communication gap between high school and university educators (see Thomas 1990). The need is apparent for a more developed relationship between them (Kohn 1982).

Ironically, in the authors' experience the value and marketability of geography has never been higher. Surveys of advertisements in major Canadian newspapers reveal a strong demand for those with geographic education and skills. These include positions in impact assessment, site selection, strategic planning, economic development, and geographic information systems. It behooves us all to respond.

Notes

- 1 The 'challenge' to geography of the enrollment impact of its diminishing role in environmental studies (as more of traditional geography material is taken over by the science curriculum) has been worrisome at both secondary and university levels (Pemberton 1989; Klee 1982). Kohn (1982) notes a parallel problem in the loss of 'geographic' content to social sciences.
- 2 Despite the large numbers of students taking geography in the United Kingdom, Lee (1985) has noted a similar problem there. He observed pessimistically that geography did not compare well with other disciplines in its ability, throughout the education system, to retain students. Geography fared better only than Latin and history (and only slightly better than the latter).

Acknowledgements

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References

- Bramwell, J. 1987 'Pupil's Attitudes Towards Geography in the Lower School: An Investigation into Gender Differences' *Geography* 72:36-48
- Bunce, V.J. 1986 'Underrated but Invaluable: The Image of Secondary School Geography in the 1980s' *Geography* 71:325-332
- Clark, D. and Taylor, S.M. 1984 'A Summary of the Findings of a Survey Conducted for Geography Forum 1984' Unpublished paper (Hamilton: Dept. of Geography, McMaster University)
- Fincher, R. 1985 'Improving Geography's Public and Educational Profile' *The Operational Geographer* 6:3-5
- Given, G. 1988 'Geography: Images Held by First Year Undergraduates' Paper presented at CAGONT (London: University of Western Ontario)
- Klee, G.A. 1982 'The Status of Environmental Studies in United States and Canadian Geography Departments' *Journal of Environmental Education* 14(2):32-36
- Knapp, K. 1987 'Making Geography a 'Today' Subject in Ontario's Schools' *Monograph* 38(1):10
- Kohn, C.F. 1982 'Looking Back; Working Ahead' *Journal of Geography* 81:44-46
- Lee, R. 1985 'Where Have All the Geographers Gone?' *Geography* 70:45-59
- Ligocki, C. 1981 'High School Geography and the Need for Communication' *Journal of Geography* 81:188-190
- Long, M. and Robertson, B.S. 1966 *Teaching Geography* (London: Heinemann)
- McTeer, J.H. 1979 'High School Students' Attitudes Toward Geography' *Journal of Geography* 78:55-56
- Ontario Association for Geographic and Environmental Education 1981 *Geography for the 80's*
- Ontario Ministry of Education 1984 Ontario Schools: *Intermediate and Senior Divisions (Grades 7-12/OACs)* (Toronto)
- Ontario Ministry of Education 1989 'Course Enrollment in Publicly Supported Secondary Schools, by Division' Custom data file (Toronto)
- Pemberton, D.A. 1989 'Definitional Problems for Environmental Education and Geographic Education' *Journal of Environmental Education* 21(1):5-14
- Thomas, P.F. 1990 'On the Demise of Geography: A Post-Mortem Report' *The Operational Geographer* 8(3) this issue: 18-21