

# High school teachers' perceptions of accounting: an international study

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## ABSTRACT

A decline in enrolments in accounting programs in the United States of America has been well documented over the last decade. Some researchers have suggested that this decline is in part due to the misinformation or lack of information about the nature of accounting and the duties performed by accountants. Other studies have found that a significant number of students make their career choice decisions while at high school and that teachers are influential in this decision making process. Hardin, O'Bryan and Quirin (2000) carried out a study to identify the perceptions of US high school teachers of the accounting profession compared to engineering, law and medicine based on 24 attributes of a profession. We have replicated this study in both Australia and New Zealand to ascertain whether the US results could be generalised. Our findings indicate that the results from the NZ and Australian studies are similar to the results from the US study. This is of particular concern given the efforts of the professional accounting bodies in Australia and NZ to improve the image of accountants since the original US study was undertaken. This implies there are significant issues for educators and the profession. These include, repositioning the image of the profession, and a possible mismatch between the requisite skills perceived by the teachers and those sought by the profession.

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## INTRODUCTION

Elbert Hubbard, a philosopher popular early in the 20th century, made the following remarks:

*The typical auditor is a man past middle age, spare wrinkled, intelligent, cold, passive, non-committal, with eyes like a codfish, polite in contact but at the same time unresponsive, cold; calm and damnably composed as a concrete post or plaster-of-Paris cast, a human petrification with a heart of feldspar and without the charm of a friendly germ, minus bowels, passion or a sense of humour. Happily, they never reproduce and all of them finally go to Hell".<sup>1</sup>*

There is widespread concern that academic programmes are not retaining and attracting high-aptitude students in sufficient quantity to meet the needs of the accounting profession. Declining enrolments in accounting programmes in the United States of America have been well documented for over a decade. Arthur Andersen *et al.* (The Big Eight White Paper) (1989); Felton *et al.* (1994); and Hermanson *et al.* (1996) identified declining enrolments as indicating that the profession was becoming less attractive to students.

The formation of the Accounting Education Change Commission (AECC) (Sundem 1999) was a direct response to this growing concern of the profession. The AECC sought to assist the educators bring about change through: (1) highlighting the need for change; (2) influencing the direction of change and the means of achieving it, and (3) facilitating the implementation of the changes throughout accounting programs in the United States. The need for this change to reverse the enrolment decline was acknowledged by the academic community (Garner & Dombrowski 1997) through the development of recruitment strategies (Hermanson *et al.* 1996), and curriculum revision (May, *et al.* 1995). Despite these efforts, Albrecht and Sack (2000) confirmed that the changes implemented were insufficient to stem the flow of high achieving students away from the accounting discipline in the US.

### *Background*

Conclusions drawn from US research (Garner & Dombrowski 1997; Albrecht & Sack 2000) and (albeit dated) Australian research (Mathews *et al.* 1990) suggest that the decline in the number and quality of students choosing to major in accounting, may be due to:

1. the misinformation or lack of information about what accounting is and the nature of the duties performed by accountants (Cory 1992; Garner & Dombrowski 1997; Albrecht & Sack 2000),

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<sup>1</sup> Cited in Horngren, C.T., (1982) Cost Accounting: A Managerial Emphasis, 5<sup>th</sup> Ed, Prentice Hall, p350.

2. the perception that the accounting curriculum was predictable, routine and boring (Mathews *et al.* 1990),
3. perceptions of accounting not being compatible with the “creative, rewarding, people oriented careers that many students envision for themselves” (Albrecht & Sack 2000: 29).

Albrecht and Sack (2000) suggest that misconceptions about the activities and roles of accounting professionals are caused by four factors: misunderstanding of accounting careers by high school teachers and career advisors; a mismatch between the perceived skill set and the actual skill sets required for accounting careers; the emphasis on bookkeeping in the high school accounting curriculum; and, the narrow focus on scorekeeping in tertiary level introductory accounting courses. This in turn may have serious consequences for the profession in its endeavours to recruit the ‘best and brightest of students’ (Cory 1992; Holt 1994; Smith & Briggs 1999; Parker 2000).

The literature concerning perceptions of the accounting profession, comparisons with other professions, and factors influencing career choice has focused on six groups:

- (1) high school students (The Gallup Organisation 1991; Hartwell, Lightle & Maxwell 2005);
- (2) college students (Gul *et al.* 1989; Inman, Wenzler & Wickert 1989; Cory 1992; Donelan & Reed 1992; Cohen & Hanno 1993; Felton *et al.* 1994; Nelson & Vondrzyk 1996; Saemann & Crooker 1999; Mladenovic 2000; Jackling 2001; Coate *et al.* 2003; Fedoryshyn & Tyson 2003; Allen 2004; Tan & Laswad 2005);
- (3) accountants and other professionals (DeCoster & Rhode 1971; Imada, *et al.* 1980; Paolillo & Estes 1982);
- (4) the public at large (Holt 1994);
- (5) the media (Beard 1994; Bougen 1994; Smith & Briggs 1999; Dimnik & Felton 2000; Parker 2000); and
- (6) high school teachers (Hardin *et al.* 2000; Pollock, Papiernik *et al.* 2002).

To understand why people chose a career in accounting, Paolillo and Estes (1982) sought to systematically relate career-choice factors of accountants with other professionals, namely physicians, mechanical engineers and attorneys. In this study, they found that a significant proportion of students selecting medicine and engineering made their career choice decision at high school, whereas a greater proportion of accounting and law students deferred making their career choice decision until college. They concluded as a consequence of this finding, that the accounting profession in focusing its recruitment strategies on college students was losing access to a substantial number of recruits.

Graves *et al.* (1993) and Nelson and Deines (1995) in the Federation of Schools of Accountancy (FSA) ongoing longitudinal study on characteristics of accounting students found that approximately 30% of accounting students made the decision to study accounting while still at high school. The study also supported the findings of The Gallup Organisation (1991), that high school teachers were second only to parents and relatives in influencing that decision.

Further related research undertaken by Felton *et al.* (1994) classified the factors which influence accountants career decisions into three groups; intrinsic rewards, salary and job market considerations. Intrinsic factors were associated with satisfaction obtained from doing a job, such as the opportunity to be creative, autonomous, intellectually challenged etc. These were distinguished from financial rewards which are obtained from the organisation and are extrinsic to the nature of the job itself. Job market considerations involved factors such as availability of jobs, advancement opportunities, career flexibility and job security. They found that accountants are less concerned with the intrinsic factors in making their career decisions.

While the research outlined above focuses on why people choose accounting as a career, research on non-accountants' perceptions of accounting would suggest that vocational stereotypes represented by the media have a significant influence on individuals career decisions (Holland 1973). A direct consequence of this finding is that the stereotype becomes self-fulfilling (Friedman & Lyne 2001).

Given that a significant number of students made their career choice decisions at high school and that high school teachers were second only to parents and relatives in influencing that decision, Hardin *et al.* (2000) undertook a study of US high school teachers' perceptions of accounting.

Their study was directed to high school teachers who exercised a degree of influence on the career choice of college-bound high school students. In the same way that the Paolillo and Estes (1982) study sought to measure practicing accountants, attorneys, physicians and engineers perceptions of different professional groups, the Hardin *et al.* (2000) study sought to measure teachers perceptions of accounting, engineering, law and medicine. A total of 24 attributes of a profession, or member of a profession were included in the instrument these are presented in Table 1.

Table 1: Attributes of a Profession

Social Status	Challenging Work
Contribution to Society	Interaction with Others
Powerful Position	Job Satisfaction
Glamorous Position	Personal Liability for Malpractice
Earning Potential	Excellent Communication Skills
Difficult Entry Requirements	Excellent Problem Solving Skills
Excellent Job Opportunities	Excellent Quantitative Skills
Excellent Advancement Potential	Quality Life Style
Excellent Advancement Potential for Women and Minorities	Quality Family Life
Excellent Career for Honours Students	Long work hours
Level of Ethics	Job Security
	Male Dominated Profession
	Interesting Work

(Source: Hardin, O'Bryan and Quirin, 2000)

These attributes were adapted from previous studies carried out by Paolillo and Estes (1982) Lieberman and Marquette (1986), The Gallup Organisation (1991), and the FSA studies (Graves *et al.* 1993; Nelson & Deines 1995). Respondents were asked to rate on a scale of 1 to 100, each of the attributes associated with each of the four professions. The results of their study are shown in Table 2.

The US study found that accounting rated significantly lower than engineering, law and medicine on 13 of the 24 attributes. Accounting is viewed as a significantly less challenging, less interesting job involving less interaction with others, in a less glamorous, less powerful position with a lower quality lifestyle and less social status than law, engineering, or medicine. Accountants are also perceived to have the lowest level of problem-solving skills, communication skills and the lowest level of earnings potential relative to the other professions. From these results Hardin *et al.* (2000: 206) concluded that high school educators in the United States of America have a "relatively low opinion of accounting compared to other professions, as a career option for high school students".

While no similar studies have been undertaken in NZ or Australia, the number of domestic students graduating from accounting degree programmes in tertiary institutions has been declining in both countries (ICAA 2002; Wells 2003). This project seeks to ascertain whether NZ and Australian high school teachers hold similar perceptions of accounting as teachers in the United States and hence whether the US findings can be generalised.

Table 2: US Results of ANOVA test on Each attribute

Attribute	Acct	Eng	Law	Med	F-Test
<b>Accounting differs from Law, Engineering &amp; Medicine:</b>					
Challenging Work	69.57	88.81	85.9	95.11	60.86***
Difficult Entry Requirements	66.35	82.84	82.05	94.07	56.39***
Earning Potential	77.02	88.51	89.26	95.96	60.41***
Excellent Careers for Honours Students	76.8	92.61	85.11	94.64	35.03***
Excellent Communication Skills	53.98	61.2	92.96	75.34	77.16***
Excellent Problem Solving Skills	81.03	95.39	87.24	92.61	22.45***
Glamorous Position	46.16	66.9	76.25	87.96	73.95***
Interaction with Others	47.77	59.3	84.55	89.38	118.19***
Interesting Work	59.61	81.65	80.97	91.59	74.33***
Male Dominated Profession	69.96	86.06	80.97	91.59	74.33***
Powerful Position	57.49	70.37	83.94	89.44	84.94***
Quality Life Style	75.88	84.62	83.66	89.47	21.8***
Social Status	66.93	81.73	77.38	94.33	61.2***
<b>Accounting differs from Engineering &amp; Medicine:</b>					
Contribution to Society	65.74	82.27	65.66	94.44	73.97***
Excellent Advancement Potential	73.02	80.91	75.35	80.12	5.83***
Excellent Job Opportunities	76.10	81.58	68.76	85.39	24.35***
Job Satisfaction	72.54	82.94	74.76	87.26	22.96***
<b>Accounting differs from Law &amp; Medicine:</b>					
Excellent Quantitative Skills	93.81	94.02	66.33	81.15	68.15***
Level of Ethics	80.9	82.15	63.09	89.26	40.3***
Long Work Hours	74.22	75.75	83.36	93.22	40.72***
Personal Liability for Malpractice	53.7	56.18	63.73	94.82	58.13***
Quality Family Life	76.24	78.36	66.51	58.14	30.03***
<b>Accounting differs from Medicine:</b>					
Job Security	76.13	76.44	76.73	89.49	18.44***
<b>Accounting similar to Engineering, Law &amp; Medicine:</b>					
Excellent Advancement Potential for Women	75.59	75.47	74.51	80.51	2.16

Source: Hardin, O'Bryan & Quirin (2000)

Data from the Australian and NZ studies is compared and contrasted with the results of the US study to help identify consistent and differing perceptions. An analysis of these results will also help identify the factors which influence the misinformation about what accounting is, and the duties performed by accountants. The results may also help identify whether the teachers' perceptions of accounting are a contributing factor to the declining number of graduates in NZ and Australia. A further benefit of the study will be to assist the profession in better understanding how it is perceived by non-accountants and

hence determine the need for strategies to promote the profession not just to potential recruits but also to those who influence the career-choice process.

This section of the paper outlines the background by identifying the research question, the relevant literature and the factors which motivated the study. In the next section, the project method is explained followed by a summary of the results. In the subsequent section, the results are discussed and linked back to the relevant literature. Finally a conclusion is provided, limitations of the study are identified and opportunities for further research are discussed.

## METHOD

### *Survey Instrument*

The survey instrument which sought to measure the perceptions of influential NZ and Australian high school teachers toward accounting, engineering, law and medicine identified 24 attributes of a profession, or member of a profession. This was the same instrument that was used in the US study. Respondents were asked to rate on a scale of 1 to 100, each of the attributes associated with each of the four professions.

### *Procedure*

In New Zealand five copies of the survey instrument were distributed to the principals of two randomly selected high schools in each of the 11 modified Ministry of Education districts. There are 14 Education Districts; however three of these have a population of less than five secondary schools. These three districts have been merged with geographically adjoining districts for the purpose of this study.

In Australia five copies of the survey instrument were distributed to the principals of five randomly selected high schools in each of the eight states/territories.

The principals were asked to distribute the survey instrument to teachers who are most influential in providing career advice to university bound students. As in the original study, it was proposed to minimise a response bias resulting from this author's association with the accounting profession by not identifying the Faculty of Business as the originating entity. Ten days before the due date for the return of the survey forms, principals were requested to remind participating staff of the return date.

## *Respondents*

A total of 36 NZ and 67 Australian responses were received for an overall response rate of 33 percent for each country. This compared favourably to the US response rate of 26 percent. Responses were received from 10 of the 11 NZ education districts and all eight of the Australian states/territories.

Demographic characteristics of the respondents for both studies are reported in Table 3. The results from the Australian study were similar to the NZ study. In the NZ and Australian studies the majority of the respondents (61/59%) held a bachelors degree, while 31% reported a masters degree as their highest degree. This compared with the US where 74% of respondents held a masters degree. While 58% of NZ respondents were male this group accounted for only 40% of respondents in the US study and a mere 31% in the Australian study. As there were only small differences in the mean ages and years of teaching experience in the studies it could be argued that the age distribution of teachers in the US survey was more evenly spread.

NZ respondents were predominantly employed by state high schools (89%) with only 11% of the respondents employed by private schools and integrated schools. This compares to 93% of responses being from state schools in the US and contrasts significantly with the Australian study where 51% of the respondent schools were non-government. The average number of Year 11 – 13 students at the responding high schools was 533 in NZ, 450 in Australia and 684 in the US.



Table 3: Respondent demographics

	NZ n=36	AUS n=67	US* n=128
<b>Highest Degree Earned</b>			
Bachelors	61%	59%	26%
Masters	31%	31%	74%
Other	8%	9%	0%
<b>Gender</b>			
Male	58%	31%	40%
Female	42%	69%	60%
<b>Age</b>			
	n=48 years	n=46 years	n=46 years
20 - 29	3%	6%	2%
30 - 39	9%	10%	21%
40 - 49	31%	43%	32%
50 - 59	53%	34%	41%
Over 60	3%	6%	4%
<b>Teaching Experience</b>			
	n=22 years	n=20 years	n=20 years
Less than 5	3%	7.8%	6%
5 - 20	43%	42.2%	47%
21 - 30	40%	43.8%	35%
Over 30	14%	6.3%	12%
<b>Type of High Secondary School</b>			
Non Govt	11%	51%	7%
State	89%	49%	93%
<b>Number of Student in Year 11 - 13</b>			
	n=533	n=450	n=684
Under 100	6%	6%	5%
100 - 500	39%	58%	46%
500 - 1000	50%	35%	24%
1001 - 1500	6%	0%	19%
Over 1500	0%	0%	6%

\* Source: Hardin, O'Bryan & Quirin (2000)

## RESULTS OF THE NZ AND AUSTRALIAN SURVEYS

The results of each of the 24 attributes were analysed using a one-way analysis of variance (ANOVA), with the four different professions as the factor variable, and the responses on each of the 24 attributes as the response variable. The results have then been subdivided into seven sections. First the results for those attributes where accounting was significantly different from law, engineering and medicine are discussed. The next five sections report on the attributes where

accounting was significantly different from one or more of the other professions. Finally, those attributes which were similar for all professional groups are discussed. The mean responses, significant differences, and overall F-Tests for the 24 attributes and four professions are reported in Table 4 for the NZ study and Table 5 for the Australian study.

### *The NZ Study*

In the first section where accounting was perceived to be different from all other disciplines, the respondents rated accounting significantly lower than engineering, law and medicine on six of the 24 attributes. From these results accounting is viewed as, not being an excellent career for honours students, being of lower social status, having relatively easy entry requirements, not requiring excellent communication skills and as providing less challenging and less interesting work. It should be noted that the differences are evenly distributed between job market considerations (excellent career for honours students, social status and entry requirements), and intrinsic rewards (excellent communication skills, challenging work and interesting work).

These findings reflect a generally unfavourable perception of the accounting profession. They suggest that the more able students with better communication skills are likely to be guided to professions other than accounting. This should be of concern to the accounting profession, given the recommendations relating to communication skill capabilities in graduates by Arthur Andersen *et al.* (1989). Another of these findings, that honours students would not find accounting sufficiently interesting or challenging, gives further cause for concern to a profession which seeks to recruit the 'best and the brightest' (Garner & Dombrowski 1997).

Table 4: NZ results of ANOVA Test on each attribute

Attribute	Acct	Eng	Law	Med	F-Test
<b>Accounting differs from Law, Engineering &amp; Medicine:</b>					
Social Status	61.4	73.6	74.2	89.9	18.77***
Interesting Work	49.1	81.7	72.9	85.7	30.67***
Challenging Work	64.3	85.7	77.6	90.4	20.91***
Personal Liability for Malpractice	62.6	67.1	65.7	76.4	2.46
Excellent Communication Skills	57.1	70.4	84.7	78.5	11.89***
Difficult Entry Requirements	58.2	76.4	70.4	93.1	24.25***
Excellent Careers for Honours Students	73.6	90.3	85.9	92.8	9.63***
<b>Accounting differs from Engineering &amp; Medicine:</b>					
Level of Ethics	69.3	81.9	69.3	89.1	10.95***
Contribution to Society	63.6	83.2	65.8	91.4	24.28***
Job Satisfaction	70.9	83.9	76.6	85.1	6.01***
Excellent Job Opportunities	73.9	86.4	73.2	85.8	6.41***
<b>Accounting differs from Law &amp; Medicine:</b>					
Interaction with Others	53.6	63.5	76.8	88.3	22.93***
Powerful Position	63.1	66.2	78.3	76.5	6.37***
Glamorous Position	47.5	58.3	72.2	69.7	7.81***
Excellent Quantitative Skills	86.9	91.9	65.1	74.5	17.29***
Earning Potential	78.4	85.8	89.4	89.7	5.81***
<b>Accounting differs from Medicine:</b>					
Quality Family Life	72.6	76.8	66.1	52.9	10.25***
Long Work Hours	64.7	67.1	72.1	84.4	8.81***
Job Security	80.8	84.2	82.4	92.2	3.79**
<b>Accounting differs from Engineering:</b>					
Excellent Problem Solving Skills	75.4	93.2	76.3	83.6	8.43***
Male Dominated Profession	60.4	86.7	61.1	62.8	19.68***
<b>Accounting similar to Engineering, Law &amp; Medicine:</b>					
Quality Life Style	78.1	79.1	78.9	72.1	1.06
Excellent Advancement Potential	76.1	83.8	82.3	83.6	1.61
Excellent Advancement Potential for Women	70.6	65.7	74.7	82.1	3.02*

Accounting was rated similar to law but significantly different from engineering and medicine on four of the attributes. Accounting and law were rated as having a significantly lower level of ethics and providing a lesser contribution to society, with less job satisfaction and less job opportunities than provided by engineering and medicine. These results for accounting should give cause for concern to the profession, particularly with respect to the ethical dimension, contribution to society and job opportunities. These findings suggest

a lack of understanding of the nature and type of work undertaken by accountants.

Accounting, law and engineering were perceived to be significantly different from medicine on three of the attributes. The respondents' perceptions reflected a better quality family life, lower working hours than for medicine, while medicine provided significantly greater job security. On five attributes accounting was rated similar to engineering but significantly different from law and medicine. Accounting was considered to have a higher earning potential and require greater quantitative skills than law and medicine. On the other hand accounting was perceived to involve less interaction with others and be a less glamorous and powerful position. The perceived importance of quantitative skills for the accounting profession combined with the limited interaction with others suggest that accounting is perceived as a backroom technical procedure driven vocation, this again is inconsistent with the views expressed by Arthur Andersen *et al.* (1989) and the AECC (Sundem 1999).

On two attributes accounting was rated similar to law and medicine but significantly different from engineering. Engineering was considered to be more male dominated with a requirement for a higher level of problem solving skills. Of particular concern with these findings is the perceived requirement for a significantly lower level of problem solving skills for accounting, which again supports the notion that the role and duties of accountants are misunderstood. On a positive note the increasing role of women in the profession is being recognised.

The four professions were all rated similarly on three of the 24 attributes, advancement potential, advancement potential for minorities or females, and quality of lifestyle. Again these attributes provide a perception of the working environment rather than the nature and type of duties performed.

Table 5: Australian results of ANOVA test on each attribute

Attribute	Acct	Eng	Law	Med	F-Test
<b>Accounting differs from Law, Engineering &amp; Medicine:</b>					
Social Status	63.5	74.1	81.9	91.5	36.09***
Interesting Work	48.8	79.2	76.1	86.4	67.09***
Challenging Work	65.2	87	82.7	93.3	52.28***
Glamorous Position	43.5	58.3	76.0	73.4	38.48***
Excellent Problem Solving Skills	74.5	92.2	81.2	86.4	16.94***
Difficult Entry Requirements	63.1	82.9	88.7	98.0	81.58***
Excellent Careers for Honours Students	70.7	83.2	83.8	84.9	6.79***
Interaction with Others	57.3	67.2	84.6	89.4	59.09***
Job Satisfaction	66	79.7	76.1	81.3	13.61***
<b>Accounting differs from Engineering &amp; Medicine:</b>					
Contribution to Society	63.8	79.3	69.4	93.4	43.05***
<b>Accounting differs from Law &amp; Medicine:</b>					
Quality Family Life	75	78	67	55.1	28.146***
Powerful Position	63.3	65.6	87.4	83.6	36.59***
Long Work Hours	66.1	70	82.1	92.8	41.73***
Excellent Quantitative Skills	97.4	93.3	63.6	78.6	9.41***
Earning Potential	80.4	84.3	93.1	92.7	19.07***
Excellent Communication Skills	57.8	64.9	88.8	77.4	38.43***
<b>Accounting differs from Medicine:</b>					
Excellent Advancement Potential for Women	63.3	64.2	70.2	77.5	6.639***
Excellent Job Opportunities	79.2	80	79.8	92.1	12.859***
Job Security	78.8	77.5	83.2	91.8	11.49***
Personal Liability for Malpractice	61.5	70.9	69.1	95.2	29.01***
Level of Ethics	70.9	76.1	68.4	89.7	20.1***
<b>Accounting differs from Engineering &amp; Law:</b>					
Male Dominated Profession	76.1	87.7	68.8	69.8	21.68***
<b>Accounting similar to Engineering, Law &amp; Medicine:</b>					
Quality Life Style	75.7	80.5	79.7	75.5	1.95
Excellent Advancement Potential	73.1	78.9	79	80.4	2.209*

### *The Australian Study*

In the first section where accounting was perceived to be different from all other disciplines, the respondents rated accounting significantly lower than engineering, law and medicine on nine of the 24 attributes. From these results accounting is viewed as, not being an excellent career for honours students, having easy entry requirements, and not requiring excellent problem solving

skills. Accounting also recorded the lowest level of, job satisfaction, interaction with others, social status, interesting and challenging work while being the least glamorous of the four professional groups.

Like the NZ study, the differences are evenly distributed between job market considerations and intrinsic rewards and reflect a generally unfavourable perception of the accounting profession.

Accounting was rated similar to law but significantly different from engineering and medicine on only one attribute, *Contribution to Society*. This attribute received the same rating in the NZ study. The perception was that accounting and law were considered to make a significantly lower level of contribution to society than engineering and medicine.

Accounting and engineering were perceived to be significantly different from law and medicine for six of the attributes. The respondents perceptions reflected, a better quality of family life, less powerful position, shorter working hours, and a lower earning potential for accounting and engineering compared to law and medicine. Likewise accounting and engineering required a higher level of quantitative skills and a lower level of communication skills than law and medicine.

Accounting was perceived as similar to engineering and law but different to medicine for five of the attributes. In this instance medicine provided significantly greater advancement potential for women, job opportunities and job security. Likewise medicine had a perceived higher level of ethical behaviour along with a greater personal liability for malpractice.

### ***Demographic Differences***

To determine whether there were any demographic differences in the responses to each attribute, the data was further analysed using a one-way analysis of variance (ANOVA), with the demographic variable as the independent variable and the responses on each of the 24 attributes as the dependent variable.

All significant ( $p < 0.05$ ) demographic differences across all four professions are reported in Table 6 for the NZ study and Table 7 for the Australian study.

Table 6: Results of ANOVA test on NZ demographic variables<sup>1</sup>

<b>Mean Responses for Attributes With Differences on Gender</b>			
<b>Attribute</b>	<b>Males n = 21</b>	<b>Females n = 14</b>	<b>F-test</b>
Interesting Work	68.15	78.16	6.87***
Challenging Work	76.19	83.92	6.3***
Personal Liability for Malpractice	61.33	77.00	10.28***
Excellent Communication Skills	67.78	79.38	9.13***
Excellent Problem Solving Skills	78.69	86.82	6.94***
Excellent Quantitative Skills	72.14	75.833	9.38***
Excellent Job Opportunities	75.55	85.92	12.45***

  

<b>Mean Responses for Attributes With Differences on Highest Degree</b>				
<b>Attribute</b>	<b>Non Degree n = 3</b>	<b>Bachelors n = 22</b>	<b>Masters n = 11</b>	<b>F-test</b>
Interaction with Others	90.833	68.52	69.97	5.41***
Excellent Problem Solving Skills	96.67	79.25	83.75	5.41***
Earning Potential	97.5	84.56	84.77	5.13***

  

<b>Mean Responses for Attributes With Differences on Years of Teaching</b>					
<b>Attribute</b>	<b>&lt; 5 n = 1</b>	<b>5 - 20 n = 15</b>	<b>20 - 30 n = 14</b>	<b>&gt; 30 n = 5</b>	<b>F-test</b>
Quality Lifestyle	40.00	78.92	69.20	76.00	6.61***
Quality of Family Life	37.50	64.67	62.86	63.00	5.04***
Glamorous position	35.00	64.48	60.54	75.00	4.01***

  

<b>Mean Responses for Attributes With Differences on Age</b>						
<b>Attribute</b>	<b>20 - 29 n = 1</b>	<b>30 - 39 n = 3</b>	<b>40 - 49 n = 10</b>	<b>50 - 59 n = 17</b>	<b>60+ n = 1</b>	<b>F-test</b>
Quality Lifestyle	40	70	86.25	74.12	67.5	8.58***
Job Security	100	95	85.93	82.87	100	4.17***
Personal Liability for Malpractice	77.5	44.17	68.75	74.59	45	4.06***
Excellent Communication Skills	48.75	65.83	76.1	72.84	77.5	9.13***
Excellent Job Opportunities	70	65	83.3	80.67	100	4.32***

Notes: p&lt;.001

<sup>1</sup> Some of the 36 subjects did not report all demographic information

In the NZ study the main effect for gender was significant for seven of the attributes; interesting work, challenging work, personal liability for malpractice, excellent communication skills, excellent job opportunities and excellent quantitative skills. Females rated all of these attributes higher than did males. This suggests that females had a more positive perception of professions in general than did males. The Australian study identified only three attributes which were significant for the main effect of gender. These were quality of family life, challenging work and job security where females, as in the NZ study, viewed the professions more favourably.

Table 7 : Results of ANOVA Tests on Australian demographic variables <sup>1</sup>

**Mean Responses for Attributes With Differences on Gender**

Attribute	Males n =20	Females n = 44	F-test
Quality of Family Life	68.10	78.07	5.401**
Challenging Work	57.25	68.30	5.328**
Job Security	71.50	82.73	6.202**

**Mean Responses for Attributes With Differences on Highest Degree**

Attribute	Non Degree n = 6	Bachelors n = 38	Masters n = 20
Quality Lifestyle	75.83	78.42	69.00

**Mean Responses for Attributes With Differences on Age**

Attribute	20 - 29 n = 4	30 - 39 n = 7	40 - 49 n = 29
Interesting Work	60	76.4286	72.5862
Quality Lifestyle	68.125	71.7857	79.3103
Glamorous Position	53.75	52.3214	64.3966
Job Security	76.25	76.25	83.5603
Earning Potential	85	88.5714	87.2414
Excellent Job Opportunities	73.125	77.3214	83.5776
Male Dominated Profession	78.125	71.6071	76.1207
Excellent Careers for Honours Students	82.5	84.2857	78.6161

**Mean Responses for Attributes With Differences on Years of Teaching**

Attribute	< 5 n = 5	5 - 20 n = 27	20 - 30 n = 28
Job Satisfaction	71	76.5093	74.1667
Quality Lifestyle	65	78.3796	78.6111
Glamorous Position	57.5	57.7315	68.6111
Job Security	72.5	81.3426	84.3796
Personal Liability for Malpractice	67	71.1019	75.787
Excellent Communication Skills	63.5	68.0185	77.4636
Excellent Quantitative Skills	84.5	78.4904	82.7727
Excellent Job Opportunities	77.5	79.5648	85.6019
Excellent Careers for Honours Students	78.5	76.9907	85.2404

<sup>1</sup> Some of the 65 subjects did not report all demographic information



In the US study the female respondents also had a more positive perception of professions identified through three different attributes: job satisfaction, job security and social status.

Of particular note was the very high standard deviation (29%) in the NZ ratings for the attribute 'personal liability for malpractice'. One possible explanation for this is a misunderstanding of the scope and application of the *Injury Prevention, Rehabilitation and Compensation Act 2001* by the respondents.

Three attributes had a significant effect on highest degree earned in the NZ study. The results showed that teachers who did not hold a degree rated all three attributes significantly higher than those who held a degree. However, given the size of the group of teachers who did not hold a degree ( $n=3$ ), the results are not conclusive. The US study reported only one significant different attribute: 'advancement potential', from this group, while the Australian study also identified only one attribute: 'quality lifestyle'.

With the years of teaching attribute, there was a consistent decline in ratings on all significant attributes for the 20-30 years teaching experience group in the NZ study. The results from the under five and over 30 years teaching experience groups have not been explored further due to the small size of these groups ( $n=5$ ). In the US study there was a significant main effect on teaching experience for the attributes: 'advancement potential' and 'job satisfaction' where respondents with greater teaching experience rated lower scores for these attributes. This contrasts with the Australian study where nine attributes were significant for the main effect years of teaching. In this study, the more experienced teachers generally held a more favourable perception of the professions.

Although significant differences were found on five attributes for the teacher age variable, the small size of these groups in the NZ study makes a reliable interpretation of the data difficult. In the US study age had a significant main effect on only three attributes: 'earning potential', 'advancement potential' and social status. While the Australian study identified a significant main effect on eight attributes: interesting work, quality lifestyle, glamorous position, job security, earning potential, excellent job opportunities, male dominated profession and excellent careers for honours students. In general, the older the respondent the more favourable perception they held of the professions for these attributes.

Of particular interest in these findings is that while there is consistency in the overall results of all three studies, there is little consistency in the demographic differences.

## DISCUSSION

Using the data from tables 2, 4 and 5 each attribute is classified according to the rating for accounting relative to the other three disciplines. This results in seven different classifications: (1) accounting different from any other discipline, (2) accounting different from engineering and medicine, (3) accounting different from law and medicine, (4) accounting different from medicine, (5) accounting different from engineering, (6) accounting different from law and engineering and (7) accounting similar to all other disciplines. A comparison of these classifications for all three studies is shown in Table 8.

Teachers from all three studies held the same perceptions for eight out of the 24 attributes. In the first section where accounting is perceived to be significantly different from all other disciplines, perceptions were consistent for five attributes. Teachers in all three countries believe that accountants have the lowest social status and the least interesting and challenging work. These findings provide no surprises as they are consistent with the stereotypical image of accounting portrayed by the media (Cory 1992; Smith & Briggs 1999). They also believe that accounting has the least difficult entry requirements and is the least suitable career for honours students thus implying that accounting is well suited to less able students.

In the second section where accounting is perceived as different from engineering and medicine, responses were consistent for just one attribute – contribution to society. In each case accounting and law were perceived as making a significantly smaller contribution to society than engineering and medicine.

Again in the third section the only attribute to be consistently perceived as being significantly different from law and medicine was ‘excellent quantitative skills’. In each country engineering and accounting were perceived as having a higher level of quantitative skills than law and medicine.

While 12 of the remaining 16 attributes did not have consistent classifications, they did achieve a consistent ranking for the discipline across all three countries. These attributes are marked accordingly in table 8. With the exception of ‘quality of family life’ where accounting ranked second highest, and ‘level of ethics’ where accounting ranked only above law, accounting was the lowest ranked discipline for the remaining 10 attributes. Perhaps the most significant finding for this category of attributes was that the variation in perception related more to a variation in the perception of law for seven attributes and engineering for two attributes rather than accounting.

Table 8: Comparison of attribute classifications

	Type in NZ	Type in US	Type in Aus
Social Status	1	1	1
Interesting Work	1	1	1
Challenging Work	1	1	1
Difficult Entry Requirements	1	1	1
Excellent Careers for Honours Students	1	1	1
Excellent Communication Skills	1	1	3
Personal Liability for Malpractice	1	3	4
Job Satisfaction	2	2	1
Contribution to Society	2	2	2
Excellent Job Opportunities	2	2	4
Level of Ethics	2	3	4
Interaction with Others	3	1	1
Glamorous Position	3	1	1
Powerful Position	3	1	3
Earning Potential	3	1	3
Excellent Quantitative Skills	3	3	3
Quality Family Life	4	3	3
Long Work Hours	4	3	3
Job Security	4	4	4
Excellent Problem Solving Skills	5	1	1
Male Dominated Profession	5	1	6
Excellent Advancement Potential for Women	7	5	4
Quality Life Style	7	1	7
Excellent Advancement Potential	7	2	7

Key:

1. Accounting different from any other discipline
2. Accounting different from Engineering and Medicine
3. Accounting different from Law and Medicine
4. Accounting different from Medicine
5. Accounting different from Engineering
6. Accounting different to Law and Engineering
7. Accounting similar to all other disciplines considered

The four remaining attributes for which there appears to be considerable variation in perception between countries are: 'excellent advancement potential for women', 'male dominated profession', 'quality lifestyle' and 'excellent job opportunities'. Surprisingly, in this category medicine was perceived to have the highest ranking for 'quality lifestyle' in the USA while it was perceived as having the lowest ranking in Australia and NZ.

In conclusion, for twenty of the attributes there appears to be no difference between the findings of teachers perception of accounting in each country. It

does appear however that there is less consistency in their perceptions of the other three professions. This is particularly so for law.

## CONCLUSION

The purpose of this study was to ascertain whether the findings from the Hardin *et al.* (2000) study could be generalised. We have done this by comparing NZ, Australian and US high school teachers' perceptions of the accounting profession with the legal, engineering and medical professions. The literature reviewed suggests that many young persons make career decisions in high school, and that teachers are second only to parents as a source of career advice. As a consequence, high school teachers' perceptions of the accounting profession could have a significant effect on the profession's recruiting efforts.

The findings suggest that high school teachers in all three countries have a low opinion of accounting as a career opportunity relative to law, medicine and engineering. The responses to each of the attributes tend to reinforce the stereotypes of the profession represented by the media. This suggests there is likely to be a serious mismatch between skills perceived by teachers as necessary for the profession, and the pre-requisite skills sought by the profession (Arthur Andersen *et al.* 1989). As a consequence, students who possess the skills and abilities sought by the profession, are being directed to other career opportunities. Given the documented evidence of these perceptions of accounting it is imperative that the profession actively promotes the importance of accounting not only to students at college and high school (Hardin *et al.* 2000), but also to key student influencers (Hardin *et al.* 2000; Jackling 2001; ICAA 2002), that is parents, and high school teachers.

While the professional accountancy bodies in Australia and NZ have active recruitment programmes which target high school and university students there appears to be no such programmes which specifically target the students' career advisors. This is in contrast to the USA where recruiting programmes focus not just on high school and college students but also high school teachers and counsellors (AICPA 2002). Strategies implemented in the US include teacher career conferences and teacher internship programs (TIP), the aim of which is to provide teachers with a better understanding of the opportunities an accounting career offers.

In NZ, the recruitment material targeted to students seeks to provide information on the duties and work environment of accountants, however promotional material directed to the world at large tends to be more branding focused. This assumes that the target audience understands the nature and type of duties performed by accountants. Previous studies (Holt 1994; Smith & Briggs 1999; Parker 2000) have highlighted the importance of promoting the duties performed by accountants to students as potential practitioners in an effort to reduce the amount of misinformation about the profession. The results from

this study suggest that the accounting profession needs to more widely disseminate this information. Specifically this information must target the people who have a key influence on students, when they are making a career choice decision, and therefore must include teachers and parents.

This study has four limitations. First, identifying high school teachers who are influential in helping high school students make a career choice is highly subjective and there can be no certainty that high school principals did in fact use this criteria in their selection process. Second, while the response rate was 5% higher than the Hardin *et al.* (2000) survey, the actual number of respondents makes it difficult to draw reliable conclusions from some of the demographic data collected. Third, insufficient attention was paid to the possibility of a non-response bias. Last, this study makes no attempt to conclusively report on the reasons for the perceptions held by the respondents.

This project has presented two opportunities for further research. The first is to consider the grouping of attributes and also the extent to which one group of attributes may influence other groups of attributes. The second opportunity is to examine the impact of teacher perceptions on student career choice.

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