

The High School Accounting Curriculum: Friend or Foe?

Paul K Wells¹

School of Business

Auckland University of Technology

Auckland

New Zealand

15th January 2013

Acknowledgement: The author is grateful to Kate Kearins for helpful feedback and suggestions made on earlier versions of this work.

¹ Corresponding author: Paul Wells, School of Business, Auckland University of Technology, Private Bag 92006, Auckland, New Zealand. Email: paul.wells@aut.ac.nz.

Abstract

Concern that the high school accounting curriculum may be discouraging students from pursuing a career in accounting provided the motivation for this study. Drawing on social psychology theory, this paper identifies and analyses the perceptions of accounting held by senior high school students. Individual perception data were collected through questionnaires. Further, separate focus groups comprising students who had and who had not previously studied accounting provided a basis on which to ascertain how and why perceptions of accounting may have been formed. Those students taking accounting classes had more focused, but also more negative perceptions of accounting and accountants than did those with no previous study in accounting. Perceptions across both groups of students were more stereotypical than expected however while indirectly linked, the influences on the resultant perception differed for each group thus requiring different intervention strategies.

Keywords: perceptions, stereotypes, accounting, accountants, students

Introduction

There is growing concern that academic programmes are not attracting and retaining high-aptitude students in sufficient quantity to meet the needs of the accounting profession (Cory 1992; Garner and Dombrowski 1997; Albrecht and Sack 2000).

Conclusions drawn from North American research (Cory 1992; Garner and Dombrowski 1997; Albrecht and Sack 2000) and Australian research (Mathews, Brown et al. 1990) suggest that the decline in the number and quality of students choosing to major in accounting could be due to several factors. These include:

- a) misinformation or the lack of information about what accounting is and the nature of the duties performed by accountants (Cory 1992; Garner and Dombrowski 1997; Albrecht and Sack 2000);
- b) students having more attractive career alternatives than in the past (Albrecht and Sack 2000), which is reinforced by the perception that the accounting curriculum is predictable, routine and boring (Mathews, Brown et al. 1990); and
- c) student perceptions of accounting as not being compatible with the “creative, rewarding, people oriented careers that many students envision for themselves” (Albrecht and Sack 2000).

These concerns and the declining enrolments of domestic students in accounting programmes in New Zealand universities, (Wells 2006) provides the motivation for this study.

Behavioural studies suggest that individuals base career selections on vocational stereotypes (Holland 1973) while Bedeian et al. (1986) suggest that an inappropriate image could unfairly bias individuals against a profession for which they were suited. Likewise, Usoff and Feldman (1998) and Inman, Wenzler and Wickert (1989) assert that inaccurate perceptions of the accounting profession will lead to the recruitment of students who lack the required

skills and capabilities to perform the duties required of accountants and, as a consequence, the perception becomes a self-fulfilling prophecy (Taylor and Dixon 1979; Friedman and Lyne 2001).

This study responds to these concerns for an important stakeholder group: high school students, a key source of potential accountants by identifying their perceptions of accounting and discovering how and why these perceptions were formed.

The paper is organized as follows. First the general literature on students' perceptions is reviewed, followed by the literature on stereotype theory which is drawn mostly from social psychology. The research design is then explained, ahead of findings from the study of high school students' perceptions of accounting and accountants. This is followed by discussion and integration of theory and implications and suggested intervention strategies conclude the paper.

Background

According to the American Institute of Certified Public Accountants (AICPA) (2000), most high school and college students in the United States of America cannot accurately describe the work of accountants, their responsibilities or the career opportunities available in the accounting profession. Albrecht and Sack (2000) concluded that there were four factors that contributed to the misconceptions about the activities and roles of accounting professionals: misunderstanding of accounting careers by high school teachers and career advisors, the lack of publicly available information on what accounting is 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 and Briggs 1999; Parker 2000).

While there have been numerous studies of university/college students' perceptions of accounting and accountants (Taylor and Dixon 1979; Imada, Fletcher et al. 1980; Inman, Wenzler et al. 1989; Chacko 1991; Dodson and Price 1991; Cory 1992; Holt 1994; Fisher and Murphy 1995; Warnock 1997; Enis 1998; Mladenovic 2000; Jeffrey 2002; Teixeira 2003; Coleman, Kreuze et al. 2004; Hunt, Falgiani et al. 2004; Enis 2006; Erickson 2006), there have been few studies of high school students' perceptions (Dodson and Price 1991; The Gallup Organisation 1991; Jeffrey 2002; Byrne and Willis 2005; Hartwell, Lightle et al. 2005; Jackman and Hollingworth 2005; Malthus and Fowler 2009). This neglect is surprising given that 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 over 30% of accounting students made the decision to study accounting while still at high school. Byrne and Willis (2005) found that students' perceptions of accounting are influenced by study of the subject, by the media and by teachers. Hartwell et al. (2005) found that 87% of students started considering their college major in their final year at high school and believed that a degree in accounting would be useful to someone who wants challenging work while only 39% considered accounting predictable. Jeffrey (2002) found that high school students in Mexico have little knowledge of the profession and what it does. The most significant finding in The Gallup Organisation (1991) study was that high school students rated accounting lower than law, medicine, teaching, engineering and financial planning and that low achievers at high school were more likely to select accounting as a career than were the high achievers. Meanwhile Dodson and Price (1991) found that 37% of high school students did not know what CPAs do, with half of the respondents distinguishing between CPAs and accountants. The Dodson and Price (1991) 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.

Evidence to support the conclusion that there is a misunderstanding of accounting careers by high school teachers and careers advisers are confirmed by the findings of studies in the United States of America (Hardin, O'Bryan et al. 2000), Japan (Sugahara, Osamu et al. 2006) and Australia and New Zealand (Wells and Fieger 2006; Malthus and Fowler 2009). In these studies, high school teachers and careers advisors were asked to compare their perceptions of accounting with three other professions, namely law, engineering and medicine. The findings from all four studies concluded that high school teachers have a low opinion of accounting relative to law, medicine and engineering. In addition, the respondent answers in all four studies reflected a lack of understanding of the duties performed by accountants. This finding is of particular concern given that high school teachers and careers advisors have been considered second only to parents in influencing students in their career choice decisions (Graves, Nelson et al. 1993; Nelson and Deines 1995).

The link between personality, characteristics and appearance, perceived skills and capabilities, perceived duties performed and career choice factors is explained by Holland (1973) who suggests an individual chooses an occupation in an attempt to fulfil a way of life within the context of work. As a consequence, vocational interests are expressions of personality. Individuals tend to make occupational choices which place them in environments compatible with their predominant personality characteristics.

The career choice factors strand of the literature on perceptions of accounting and accountants, which accounts for approximately a quarter of the reviewed studies, investigates the perceived intrinsic, financial and job-related factors related to a career in accounting (Paolillo and Estes 1982; Gul, Andrew et al. 1989; Inman, Wenzler et al. 1989; Cohen and Hanno 1993; Adams, Pryor et al. 1994; Felton, Buhr et al. 1994; Felton, Dimnik et al. 1995; Fisher and Murphy 1995; Hermanson, Hermanson et al. 1995; Nelson and Deines

1995; Nelson and Vandrzyk 1996; Ahmed, Alam et al. 1997; Hardin, O'Bryan et al. 2000; Nelson, Vandrzyk et al. 2002; Chen, Jones et al. 2003; Fedoryshyn and Tyson 2003; Allen 2004; Hartwell, Lightle et al. 2005; Jackman and Hollingworth 2005; Tan and Laswad 2005; Wells and Fieger 2006). These studies consistently find that financial and job-related factors have a greater influence than do intrinsic factors on the career and degree major decision for accounting students while intrinsic factors are considered more important by non-accounting students. In addition, perceived intrinsic factors are rated more highly for other professional groups (Fisher and Murphy 1995; Hardin, O'Bryan et al. 2000; Wells and Fieger 2006). A possible explanation is the failure by respondents to comprehend the duties performed by accountants. Surprisingly, none of the above studies sought to identify how (Hunt, Falgiani et al. 2004) or why these negative perceptions of accounting were formed.

The Accounting Curriculum

Calls for curriculum change were led by the Accounting Education Change Commission (1990), American Accounting Association (1986), Arthur Andersen et al., (1989), Heffes (2001) and Smith and Briggs (1999). Specifically, an improved alignment of the curriculum with current professional practice was being required. Academics responded positively to these calls for change (May, Windal et al. 1995) and set about developing a curriculum which better reflected the skills, knowledge and capabilities required to perform the diverse roles performed by accountants. The effectiveness of these changes were investigated by Geiger and Ogilby (2000), Sundem (1999) and Albrecht and Sack (2000) in the United States of America, Mladenovic (2000) and Jackling (2002) in Australia, Teixeira (2002) and Wells, Gerbic, Kranenburg, and Bygrave (2009) in New Zealand, and Marriott and Marriott (2003) in the United Kingdom. While the Australian and New Zealand investigations found that perceptions improved as a result of curriculum changes, the United States of America and United Kingdom results were less conclusive. Overall Sundem (1999) concluded that pedagogy had changed more than content, which supported the findings of Albrecht and

Sack (2000) who found that there had been little change to the content of introductory accounting courses in the United States of America since the first calls for reform in 1989.

Accounting curriculum content and pedagogy both in high school and first year at tertiary level has been criticised for contributing to the negative and inaccurate perceptions students have of accounting (Albrecht and Sack 2000; Malthus and Fowler 2009). Geiger and Ogilby (2000) found that both accounting and non-accounting students' perceptions of accounting were more negative at the end of the first course in accounting than at the start of their course. Course content contained an unhealthy focus on scorekeeping while the pedagogy was very precise, structured and devoid of context. Attempts in the classroom to change students' perceptions of the profession through curriculum change seem to have been successful both in New Zealand (Teixeira 2002) and Australia (Mladenovic 2000). In both cases, the researchers sought to better inform the students in the first accounting course by contextualising the curriculum. Contextualising the curriculum involved the use of case-based examples, co-operative learning experiences and varying assessment techniques.

The New Zealand year twelve and thirteen curriculum for accounting is based on the National Certificate of Educational Achievement (NCEA) Accounting achievement standards (NZQA 2009) which were developed and implemented between 2004 and 2006 and are listed in Table 1. These achievement standards with the exception of standard 90226 are virtually an exact copy of the curriculum for The University Entrance and Bursaries Accounting Examinations² that were in place in New Zealand during the 1970's when the researcher was an examiner for the then Universities Entrance Board.

Level	A.S. Code	Title	Credits
2	90220	Describe the conceptual basis of accounting for a sole	3

² These were the external examinations administered by the Universities Entrance Board for year twelve and thirteen students prior to the introduction of the National Certificate in Educational Achievement.

		proprietor	
	90222	Investigate and report on accounting systems	4
	90223	Demonstrate understanding of accounting process for accounting subsystems	5
	90224	Prepare financial statements and related accounting entries for sole proprietors	5
	90225	Analyse and interpret information and make recommendation(s) for a sole proprietor	4
	90226	Use Computer software to process financial transactions for a sole proprietor	3
3	90500	Describe and apply the conceptual basis of accounting in context	4
	90501	Process financial information for partnerships and companies	3
	90502	Process financial information for a manufacturing job cost system	3
	90503	Prepare financial statements for partnerships and companies	6
	90504	Prepare a report that analyses and interprets a company's financial report for external users	5
	90505	Explain and prepare information for management decision making	3

Table 1: NCEA Level 2 and 3 Accounting Achievement Standards

A review of these level 2 and 3 achievement standards suggests that little understanding of the diverse nature and the potential uses of accounting information is required. Instead, the standards focus on the preparation of financial accounting statements and the processing of accounting transactions.

Recently, the New Zealand Ministry of Education (2007) published a new high school curriculum. New achievement standards in accounting for the NCEA are currently under development for implementation in 2011-2013. The New Zealand Commerce and Economics Teachers Association Inc. (NZCETA) was contracted to the Ministry of Education to align the accounting achievement standards with the proposed New Zealand Curriculum. NZCETA provides the following commentary on the relationship of accounting to the proposed new school curriculum:

Accounting contributes primarily to the Learning Area of *Mathematics* in that it enables students to collect, organise and interpret data in order to generalise from patterns and relationships, tackle problems in realistic concepts which have real life meaning and to develop logical approaches to procedures and financial decision-making. Accounting also contributes to other Learning Area [sic] in particular to *Technology* through the use of technological applications of spreadsheets and databases.

(NZCETA 2009).

This linkage focuses on how data is captured and processed rather than the outcomes to which the accounting outputs contribute and hence accounting lacks a purpose.

The Accounting Stereotype

The use of stereotypes is explained by Lippmann (1997) as a mechanism for organising perceptions and imposing values on others, which is the result of a cognitive process for simplifying generalisations. The significance of vocational stereotypes is highlighted in behavioural studies which suggest that they form the basis for individuals' career decisions (Holland 1973). Hamilton (1981) questions the validity of stereotypes by suggesting that they are a consequence of our limited capacity to handle complex data and that they result in the suppression of information about individual variability instead encouraging individuals to overgeneralise.

To understand how occupational groups, such as accountants, are perceived, it is first necessary to understand how perceptions develop and under what influences (Mackie, Hamilton et al. 1996). The cognitive process of forming perceptions about groups of people usually involves the assignment of labels to groups. These labels are called stereotypes. Stereotypes are concerned with how events are categorised and data is stored about these events for subsequent use. While stereotypes are "pictures" formed by individuals, their consequences are more significant when they are consensually shared as they "affect entire groups of people in a common way" (Stangor and Schaller 1996). Stereotypes arise from

and are maintained by the way we think and feel and they influence interactions and relations in subsequent encounters with group members (Mackie, Hamilton et al. 1996).

Research Design

Introduction

This study was concerned with documenting high school students perceptions of accounting and, more importantly, ascertaining how and why these perceptions appear to have been constructed.

Participants

Participants were secondary school students (who, one might contend, faced with career decisions and could well have considered a career in accounting). Some of the students would have had contact with accountants and some had undertaken academic study in accounting at high school thus providing an opportunity to understand how the contact with accountants and, the curriculum had influenced their perceptions of accounting and accountants. There were sixteen year twelve and thirteen high school participants from a decile five Auckland state secondary school³. Of the students, eight were studying accounting and eight students had not studied accounting. Given that the researcher was seeking to relate questionnaire responses to focus group responses, it was proposed to limit focus group size to eight participants.

Sixteen year twelve and thirteen (aged 16-18) secondary school students completed the questionnaire survey. Focus group meetings were held in the following week with the same students, divided into two groups. The first group consisted of seven students currently studying accounting as a subject at school, and the second group of six students who had not studied accounting at all. Absence from school on the day of the focus groups was the

³ School funding in New Zealand is based on the socio-economic demographics of the area in which each school is located. Decile five is the midpoint of this scale.

reason for the drop-off in participants. Particular areas of interest included ascertaining whether these high school students' perceptions had been influenced by exposure to accountants or the curriculum and, if so, the nature and effect of that exposure.

Data Collection

As the perceptions both within and between different groups may differ, it was necessary first to identify each participant's perception and then try to ascertain how and why their perceptions were formed. While quantitative approaches to data collection have been used extensively for identifying what people perceive, qualitative data collection is more effective at identifying why those perceptions are held and what influenced their development. The adoption of a qualitative approach enabled the researcher not only to describe the perceptions people construct but also to explore why these perceptions exist (Marshall and Rossman 2006)

Data collection occurred in two stages. The first stage required the capture of data about people's perception of accounting and involved the completion of a questionnaire by all participants. The second stage involved identifying how and why those perceptions were formed and involved focus group meetings. The relationship of these techniques to the research questions is illustrated in Figure 1.

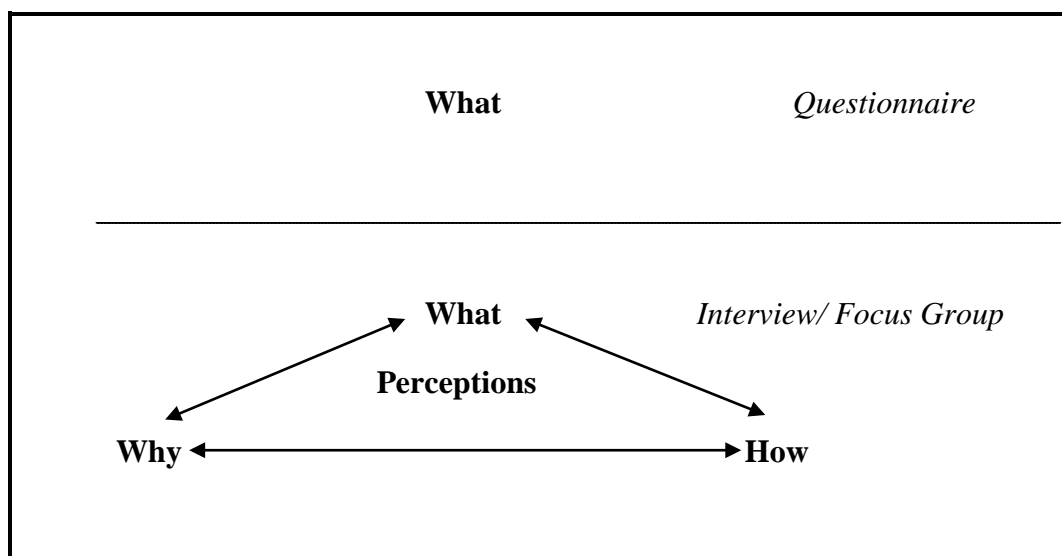


Figure 1: Relationship of data collection technique to the research questions

Questionnaire

The questionnaire was extracted, with permission, from a survey developed by Saemann and Crooker (1999) to measure perceptions of the accounting profession (PAPI) among university students in the United States of America and was subsequently used by Byrne and Willis (2005) in Ireland to measure high school student perceptions of the work of accountants.

The instrument included 36 pairs of adjectives that represent opposing views. A five-point scale was placed between each pair of adjectives and respondents were asked to express their strength of opinion in a particular direction. Approximately half the pairings were reverse coded to promote a neutral perspective on the part of the researcher. The key motivation for utilising this technique was to facilitate cross sub-group comparison of response data. However, one limitation of this approach was that the questions were limited to identifying variables that influence the perceived nature of work performed by accountants. Another limitation of this approach is that it assumes that the participants have the motivation and cognitive capacity to attribute 36 category descriptors to accounting and accountants. Yet a further limitation is the use of researcher-supplied category labels rather than the participants' labels to define perceptions, and hence the responses may not provide an accurate representation of the participants' own understanding of accounting and accountants.

Focus Groups

Focus groups provided a supportive environment for eliciting the high school participants' perspectives given their age and lack of world-life experience and hence helped to reduce the potential for a perceived power imbalance between the researcher and participants. These focus groups were in addition to completion of the questionnaires by individual high school participants. The questionnaires provided an opportunity for the participants to

communicate their point of view outside the group and took place one week prior to the focus group meetings. In addition, focus groups were useful for allowing participants to generate their own questions, pursue their own priorities and use their own vocabulary, enabling the researcher to examine different perspectives within the social network in which career decisions are often made (Barbour and Kitzinger 1999). Facilitated conversation with peers was considered a useful springboard for participants to tell their stories (Barbour & Kitzinger, 1999) while at the same time locating the questions in the context of making career choice decisions.

The ideal number of focus group participants is between eight and twelve for market research, although many sociological studies involve fewer participants (Barbour & Kitzinger, 1999). While it is difficult to control for multiple variables in focus group composition, Barbour and Kitzinger (1999) suggest that bringing people together on the basis of some shared experience is most productive. By separating the accounting students from the non-accounting students, it was hoped to prevent one group from repressing or inhibiting the other (Bloor, Frankland et al. 2001). Another question pertaining to the composition of the focus groups was whether participants should be known to each other. Social science researchers often prefer to work with pre-existing groups who are already acquainted with each other as these are the networks in which these people might discuss the issues raised in the focus groups – in this case career choice decisions (Barbour and Kitzinger 1999). The high school students in this study all knew each other, though to a varying extent.

Data collection from the high school students occurred through two focus groups, one for students studying accounting and a second for those who had not studied accounting. A further strategy recommended in the literature was the use of an intermediary to recruit focus groups (Bloor, Frankland et al. 2001). In this study, focus group participants were recruited on behalf of the researcher by a teacher from the participating high school. This

intermediary was briefed to select as demographically a diverse range of participants as possible.

Data Analysis

In this study, data analysis involved identifying similarities and differences between sub-group and individual level responses. Focus group data was coded and related back to the individual perceptions identified through the questionnaire. It was then recoded for extraneous commentary which could otherwise inform the study. In so doing, two forms of triangulation were applied. The first involved use of both the questionnaire and interview to collect data on the respondents' perceptions. Individual questionnaire and interview responses were compared for consistency and examined to ascertain whether the interview responses informed the researcher's understanding of the questionnaire responses. The second form of triangulation involved the use of data from different sources, i.e. the sub-groups. In this instance, interview responses from within sub-groups were compared. Across group analysis was also conducted. The purpose of this analysis was to locate evidence that the perceptions were consensually shared.

The responses to the interview and focus group questions were then analysed through a theoretical framework of stereotype analysis using a three-step structure which is illustrated in Figure 2.

<u>Question</u>	<u>Classification/Category</u>			
Nature of Perception	Group Schema	Group Prototype		Exemplar Model
Why	Epistemic		Esteem-related	
How	Cognitive	Affective	Socio Motivational	Cultural

Figure 2: Perception analysis framework

In the first instance, perceptions were identified and analysed according to their form, that is, whether they were group schemas, group prototypes or exemplar models (Stangor and Schaller 1996). Group schemas are abstract knowledge structures that specify the defining attributes or characteristics of a social group. They are easily assimilated, stored and activated and hence readily influence judgements of and behaviour towards others. In addition, group schemas may also contain affective information about social groups. Schemas act as filters and influence the information which is collected and retained. It is easier to store stereotype-confirming rather than disconfirming information as it better fits within the schema. The key limitation of this approach is that it does not make clear predictions about how one should measure stereotypes independently of the schematic effects themselves and therefore lacks specificity (Stangor and Schaller 1996). Group prototypes, on the other hand, are “mental representations consisting of a collection of associations between group labels” (Stangor and Schaller 1996). These are similar to group schemas except that they exist at a lower and more specific level of representation. As a consequence, stereotypes can be measured by the extent to which traits are activated on exposure to category labels. Despite their greater theoretical specificity, it is unclear how behaviour and affect would be linked to the stereotyping process within prototyping models. The remaining category, exemplar models, occurs when actual experiences of specific positions are activated. In this situation, the participant provides a response which relates to a specific roles which they are familiar with and associate with accounting.

The second step identified the reasons for their formation. The two basic functions of stereotypes are first epistemic (the need to know, understand and predict others) and second, esteem-related (Stangor and Schaller 1996). The epistemic function of stereotypes is to explain and predict the social world, thus facilitating the provision of useful information about others (Oakes and Turner 1990). In this sense, stereotypes may be used to explain behaviour based on membership of predetermined categories or to predict category

membership based on actual behaviour. The use of categories also enables people to differentiate between groups.

The esteem related function of stereotypes creates categories to differentiate oneself from others and leads to the creation of in-groups and out-groups and is driven the desire for self-advancement. Generally, the higher the level of the position of the participant within the organization, or the more connected the participant was to a professional body in their occupation, the more likely it was that accounting was perceived as prestigious. According to social identity theory (Tajfel and Turner 1979) people's membership of groups contributes to their self esteem, and therefore individuals are motivated to maintain a positive social identity from the groups to which they belong. Social identity theory therefore provides rationale to favour in-groups over out-groups by attributing positive qualities to the in-group and negative qualities to the out-group. Such a mechanism has the effect of preserving the status quo as group members are perceived as being suited to the roles they perform.

The final step identified the mechanisms that contributed to their formation, whether cognitive, affective, socio-motivational or cultural process. The cognitive mechanism in stereotype formation begins when people are categorised into groups. The next step is to draw dispositional inferences about people in the groups and the final step is to make illusory correlations which contribute to differential perceptions of the group. The process of categorisation involves identifying two or more people as a group which is distinct and separate from other groups. In an effort to handle successfully all information processing demands and to avoid information overload, people identify the similarities and differences among various stimulus events and then group those stimuli into categories. Part of this cognitive efficiency occurs when attributes are assigned to an individual by virtue of membership of the group even in the absence of empirical evidence.

The second step of drawing dispositional inferences about people in the group is where behaviour is seen as reflecting an actor's inner dispositions even if the constraints of social roles are readily apparent (Mackie, Hamilton et al. 1996). The third step is the tendency to draw unwarranted conclusions from the information presented. A primary cause of illusory correlations is the observer's differential attention to distinctive stimuli that results in people over-reacting to unusual stimuli or events.

Affective mechanisms, which lead to the formation of perceptions, become activated when certain groups become the focus of attention. Mackie et al.(1996) claim that an extensive literature attests to the fact that repeated and un-reinforced exposure to a stimulus will enhance attitudes to that stimulus.

That socio-motivational mechanisms work to identify the relative standing of groups is seen as a key motivator in the development of stereotypes (Mackie, Hamilton et al. 1996). According to social identity theory (Tajfel and Turner 1979), people's membership of groups contributes to their self-esteem, and therefore individuals are motivated to maintain a positive social identity through the groups to which they belong.

Another mechanism for stereotype formation is cultural influence. Whereas other mechanisms highlighted stereotype formation by exposure and individual experience, cultural stereotypes are socially transmitted to and accepted in pre-packaged form by the perceiver. Hence, they are socially-learned. Subjects who receive stereotypes intact before learning about individual members of the group are more likely to use stereotypic information to make judgements (Smith and Zarate 1990) such as career selection, and perceive less variability in the group overall .

Further analysis of the interview responses describing accounting enabled common themes relating to the category labels created by the participants to be identified. These category

labels were further analysed in terms of their context and role specificity in an attempt to ascertain the extent to which overgeneralised exemplar models were used to represent participant perceptions of accounting.

Results from the above analyses were used to identify, the dimensions of the popular accounting perceptions, how these perceptions appear to have developed, the forces that have lead to their development, further analysis concentrated on who adopts which perceptions and what perpetuates these perceptions. The final consideration, was whether these perceptions were consensually shared, and if so how.

Data Reliability and Validity

The quality of a study in terms of both the research methods and findings are influenced by the procedures employed in the collection, analysis and reporting of data. Bryman and Bell (2003) suggest that the following design features which have been utilised in this study will contribute to the overall reliability of the data: interview protocols, full transcription of interviews by a third party, triangulation of data and opportunity for transferability of findings.

Three design features contributed to the validity of the findings. First, triangulation involving the application and examination of multiple data sources and different collection methods in the investigation of a single question (Patton, 1990) enhanced the validity of the findings. The second feature was to relate the emergent findings to stereotype theory, thus strengthening internal validity. The third significant design feature included the use of participant sub-groups thus improving external validity.

Findings

Questionnaire Results

The Likert scale responses to the matched pairs were reduced from a five-point to a three-point scale highlighting either a preference for one of the matched pairs or neutrality. From this reduced scale, Table 2 shows the 30 of the 36 (83%) matched pairs for which there was a preference among the accounting students. The underlined item in each line is the preferred item. The items marked * identify characteristics which seek to describe how the work of accountants is regarded rather than a description of the duties themselves.

Creative vs <u>Cut and Dried</u>	People Oriented vs <u>Number Oriented</u>
<u>Repetition</u> vs Variety	Abstract vs <u>Concrete</u>
New Ideas vs <u>Established Rules</u>	Imagination vs <u>Logic</u>
Challenging vs <u>Easy</u>	Unpredictable vs <u>Routine</u>
Flexible vs <u>Structured</u>	<u>Details</u> vs Overview
<u>Solitary</u> vs Interaction	<u>Precise</u> vs Imprecise
<u>Conformity</u> vs Originality	Alternate Views vs <u>Uniform Standards</u>
Dynamic vs <u>Stable</u>	Changing vs <u>Fixed</u>
<u>Procedural</u> vs New Solutions	<u>Methodical</u> vs Novelty
<u>Compliance</u> vs Innovative	Benefits Society vs <u>Profit Driven</u>
Intuitive vs <u>Facts</u>	Practical vs <u>Theoretical</u>
Ambiguous vs <u>Certainty</u>	<u>Mathematical</u> vs Verbal
<u>Planned</u> vs Spontaneous	
Fascinating vs <u>Monotonous</u> *	<u>Tedious</u> vs Absorbing *
<u>Dull</u> vs Exciting *	Prestigious vs <u>Ordinary</u> *
Extrovert vs <u>Introvert</u> *	

Table 2: Preferred items among accounting students

These results are consistent with the findings of Byrne and Willis (2005) who concluded that accounting students have a very traditional view of the work of accountants.

Table 3 identifies ten out of the thirty-six (28%) matched pairs for which there was general agreement among the non-accounting students (compared to 83% agreement

among the accounting students) and suggests that the non-accounting students have a more diverse perception of accounting than do the accounting students. The underlined item in each line is the preferred item. The items marked * identify characteristics which seek to describe how the work of accountants is regarded rather than a description of the duties themselves.

<u>Creative</u> vs Cut and Dried	Intuitive vs <u>Facts</u>
Conceptual vs <u>Analytical</u>	Abstract vs <u>Concrete</u>
Ambiguous vs <u>Certainty</u>	<u>Mathematical</u> vs Verbal
People Oriented vs <u>Number Oriented</u>	Innovative vs <u>Compliance</u>
<u>Prestigious</u> vs Ordinary *	<u>Tedious</u> vs Absorbing *

Table 3: Preferred items among non-accounting students

Table 4 identifies the items for which there was general consensus between both the accounting and non-accounting students, with the preferred item underlined.

Conceptual vs <u>Analytical</u>	Abstract vs <u>Concrete</u>
Intuitive vs <u>Facts</u>	<u>Mathematical</u> vs Verbal
Ambiguous vs <u>Certainty</u>	People Oriented vs <u>Number Oriented</u>
<u>Tedious</u> vs Absorbing *	Innovative vs <u>Compliance</u>

Table 4: Consensus between accounting and non-accounting students

Of particular note, accounting and non-accounting students held opposing views on two items. The accounting students perceived accounting to be cut and dried and ordinary while the non-accounting students perceived accounting to be creative and prestigious. This finding would suggest that accounting students perceive accounting more negatively than non-accounting students.

The diversity of perceptions among non-accounting students is further confirmed in the high number of minority responses. The responses from the eight accounting students to the thirty-six items resulted in only thirteen (4.5%) instances in which a respondent selected a

minority response. This result compares to the sixty-seven (23%) instances in which a non-accounting student selected a minority response. From these findings, it would appear that studying accounting has a significant influence on the accounting students' perceptions of accounting.

Principal component analysis undertaken in the Saemann and Crooker (1999) study identified four factors: structure, precision, interest and solitary. The Byrne and Willis (2005) study also identified four factors: definite, precise/thorough, interesting, and compliance driven/rules based. The relationship of these factors to the findings in this study appear in Table 5. The items for which consensus exists among accounting students are underlined while the preferred items for the non-accounting students are bolded. An analysis of the accounting student responses suggest that there was general agreement that accounting was structured/definite, precise, and compliance driven and to a lesser extent solitary. For the non-accounting students on the other hand, accounting was perceived as structured and to a lesser extent, compliance driven and precise. These findings are support claims by Albrecht and Sack (2000) that the emphasis in the high school accounting curriculum is on scorekeeping.

Factor 1: Structured/Definite	
Intuitive vs Facts	Ambiguous vs Certainty
Alternative Views vs <u>Uniform Standards</u>	Abstract vs Concrete
Dynamic vs <u>Stable</u>	Imagination vs <u>Logic</u>
Unpredictable vs <u>Routine</u>	Conceptual vs Analytical
Factor 2: Precise	
<u>Planned</u> vs Spontaneous	<u>Methodical</u> vs Novelty
Thorough vs Superficial	Mathematical vs Verbal
<u>Repetition</u> vs Variety	Challenging vs <u>Easy</u>
<u>Details</u> vs Overview	Practical vs <u>Theoretical</u>

Precise vs Imprecise	
Factor 3: Interest	
<u>Dull</u> vs Exciting Fascinating vs <u>Monotonous</u> Prestigious vs <u>Ordinary</u>	<u>Tedious</u> vs Absorbing Boring vs Interesting
Factor 4: Compliance Driven	
Flexible <u>Structured</u> <u>Conformity</u> vs Originality People Oriented vs <u>Number Oriented</u> New Ideas vs <u>Established Rules</u>	Innovative vs <u>Compliance</u> Changing vs <u>Fixed</u> <u>Creative Solutions</u> vs <u>Cut and Dried</u> <u>Procedural</u> vs New Solutions
Factor 5: Solitary	
Extrovert vs <u>Introvert</u> People Oriented vs <u>Number Oriented</u>	<u>Solitary</u> vs Interaction with others

Table 5: Matching responses to previously identified factors

One of the most significant findings from the questionnaire responses was the consistency of perception from accounting students compared with the diversity of perception from non-accounting students. The next section seeks to ascertain what influenced the formation of these perceptions and provide an explanation for the consistency of responses from accounting students and the more diverse responses from the non-accounting students.

Focus Groups Findings

Accounting students

Overall, there was consensus among accounting students that the work of accountants involved the summarising of financial information and that this information was disseminated to a wide range of interested parties. There was also general consensus that *“it’s just what we do in class all the time”*, suggesting an over-riding influence of the curriculum. Only one participant knew an accountant, and reported that this accountant had little influence on his, the student’s, understanding of what accountants did. This

student who knew an accountant reported having had little communication with that person about what accounting involved and instead having relied on his classroom experiences to form his perception of accounting. This again highlighted the effect of a classroom experience on perceptions of accounting and accountants. The participants elaborated on who the users of accounting information might be – “*higher management, owners, and government*”, thus demonstrating an awareness of the recipients of accounting reports. However, there was less clarity of thought on how this information might be used. There was general agreement that accounting, based on their classroom experiences, was repetitive. Interestingly, two of these participants found accounting to be interesting despite being repetitive. The perceived nature of accounting work as routine was even more explicit in the questionnaire responses where the accounting students identified accounting to be cut and dried, repetitive, about the application of established rules, structured and fixed.

Suggested desirable skills for accountants included: “*being good with numbers*”, “*patience*”, and “*an eye for detail*” in order to avoid making mistakes. These perceived skills demonstrate participants’ attention to the scorekeeping roles rather than the use of accounting outputs to help achieve individual and organisational outcomes.

To these participants, the worst thing about accounting was that it was perceived as being “*repetitive*”, and this understanding had been informed by their classroom experiences. While participants responding to the questionnaire found accounting “*ordinary*” rather than prestigious, focus group responses were mixed. One participant commented that “*on TV, accountants are usually skinny, geeky, glasses; they’re not really the social type*”. Another believed, based on comments of family and friends, “*it was up there with engineering, lawyers that sort of thing*”. He also commented that accounting was well regarded only because it paid well rather than because of the work itself. One participant identified

chartered accountants as being well paid, and this person was the only participant to identify accounting as prestigious.

The only mildly derogatory term mentioned by one participant was *"pencil pusher"*. The participant explained that this meant *"they're just like...it's all like paperwork, there's no material benefits"*, further reinforcing the focus on compliance based scorekeeping work.

The best things about being an accountant were the perceived financial rewards and job opportunities such as *"the pay, yes money"* and *"the money and just like you always have a job"*. Over half of the participants considered that the extrinsic benefits outweighed the boring and repetitive nature of the work.

Non-accounting students

Non-accounting participants had only a very abstract and general understanding of the duties performed by accountants. This understanding of accounting was limited to the following: *"to do with money"*, *"manage people's accounts"* and *"consult clients with money problems"*. Interestingly, these participants did not describe the compliance role of the accountant. This more limited understanding may explain why these students had fewer negative perceptions of accounting than did the accounting students.

Explanations as to why the participants formed these perceptions included, *"like accountant, it's got the word account in it"*. This response came from two participants, one of whom perceived a friend's mother who worked as an *"accountant"* in a bank as performing an accountant's duties. Interestingly, the participant who believed that accountants *"consult clients with money problems"* knew his father's accountant. He described an accountant's duties as *"just look after the statements"* and *"they create a ledger or statement of performance and stuff"*, thus illustrating a somewhat more detailed understanding of the scorekeeping work of accountants than his non-accounting peers.

When asked where they learned about accounting and accountants, the students mainly made vague references to the media and society. Four out of six participants knew someone they perceived to be an accountant. One other non-accounting participant had gained a little understanding of the duties performed by accountants through knowing an accountant. None of the participants who knew accountants recalled being involved in any discussion with these people regarding their duties as accountants. The mention of banks did, however, appear to have influenced a second respondent to relate the public face of banking to the work of accountants. These two respondents also profiled accountants more consistently along the lines of how the respondents who had studied accounting profiled accountants. Despite this finding, while the two groups of participants who developed their understanding of accounting from friends who studied the subject and from a friend's mother's workplace, neither group was able to articulate the accounting duties these people performed. The perceived emphasis on working with numbers in accounting resulted in three participants concluding that accounting was boring. In addition, three of the participants who identified accounting as repetitive stated they had learned about accounting practice from friends at school who were studying accounting.

Only two of the respondents were interested in pursuing a career in accounting. The first respondent, who related accounting to banks, reported believing that accounting was well regarded as a career and *"would help me with my financial stuff"*. The second respondent was meanwhile attracted to a career in accounting due to the perceived job opportunities both locally and internationally. The remaining participants, on the other hand, had limited understanding of how accounting was regarded by the wider community. They did, however, identify the following skills and capabilities needed by accountants as similar to those identified by the accounting students: *"patience"*, *"mathematics skill"*, *"analytical skills"*, *"a fast-learner"*, and *"communication skills"*.

For these non-accounting students, the worst part of an accountant's job was perceived to be the accountant *"making mistakes"* and *"having to fix the mistake"*. This response appears to be in reference to the scorekeeping role. The best part of an accountant's job was perceived to be *"making clients satisfied"*, *"helping clients earning money"* and *"the financial rewards"*. Surprisingly, the non-accounting students viewed accounting as having a more altruistic aspect than did the accounting students.

Perception Analysis

This section draws on social psychology theory to provide some insights into the nature of the participants' perceptions of accounting and accountants and explains how and why these perceptions were formed for two groups of senior high school students'.

The nature of the perceptions

The perceptions formed of accounting and accountants by three of the non-accounting high school focus group participants were associated with money. These participants were not motivated to commit the necessary cognitive resources to form a specific understanding of accounting and as a consequence accounting was incorporated into a broader category label. By contrast, the remaining three participants in the non-accounting student group had specific encounters with people who worked in banks and whom they perceived to be accountants. As a consequence, participant discussion about accounting appeared to activate images relating to banking which in turn became an exemplar model. These participants had accordingly categorised people who work in a bank as accountants.

All accounting student discussions revolved around their experience studying the subject and so their categorisation of accounting was through exemplar models arising from that experience.

As might be expected, there was clearly greater specificity in the accounting students' perceptions than in those of the non-accounting students.

The motivation to form these perceptions

As motivations for categorisation may influence perceptions and efforts required to change them, this section considers why participants may have formed the perceptions they held of accounting and accountants.

The study found that participants' motivation for developing their understanding of accounting and accountants was influenced by a desire to provide order, knowledge and understanding of accounting (epistemic), a desire to be in the same in-group with accountants (esteem-related) or a desire to distance themselves from accountants and hence place themselves in an out-group (esteem-related). While all participants were motivated to categorise their understanding of accounting and accountants from an epistemic perspective with varying levels of detail, a few went further to privilege accounting above some occupational groups while at the same time associating it with other occupational groups.

It would appear from participant responses that all non-accounting students associated accounting with money and, as noted above, had only a very general perception of accounting. This is not surprising given that these students had had little or no meaningful contact with accountants, accounting teachers or the curriculum. While all the accounting students associated accounting with scorekeeping, one accounting student might have also been influenced by the media and created separate sub-categories for accountants and chartered accountants.

The esteem-related function of stereotypes creates categories to differentiate oneself from others and leads to the creation of in-groups and out-groups and is driven by the desire for self-advancement. The three non-accounting students who associated accounting with

banks considered employment in a bank as being desirable and enabling self-advancement. Similarly, the non-accounting student who separately categorised the work of accountants and chartered accountants was considering a career in accounting due to the perceived availability of jobs and level of remuneration.

Three of the accounting students categorised accounting separately from other careers as they perceived the remuneration and job availability to be superior despite believing that the work of accountants was repetitive and boring. Likewise, the accounting student who differentiated between accountants and chartered accountants perceived chartered accountants to be superior because of the nature of duties performed and remuneration earned, and in turn identified with this sub-category of accountant.

How these are perceptions formed

This section examines the mechanisms which lead to the formation of perceptions in order to contribute to an understanding of how and when the negative consequences of stereotyping might be eliminated (Mackie, Hamilton et al. 1996).

In an effort to handle successfully all information processing demands and to avoid information overload, the cognitive mechanism encourages people to identify the similarities and differences among various stimulus events and then group those stimuli into categories (Mackie, Hamilton et al. 1996). As identified in the findings above, the distinctive stimulus event for the accounting student participants was the scorekeeping process resulting from their study of the discipline. The nature of this stimulus resulted in one participant distancing his sharebroker father from accounting despite knowing that he trained as an accountant.

The distinctive stimulus for non-accounting students appeared to be money and banking. The non-accounting students appeared to lack the motivation to commit cognitive resources to the formation of a specific perception of accounting and instead they absorbed their

understanding of accounting into a broader category label - money. In doing so the items: “*money*”; and “*accounting*”, can be treated as functionally equivalent and this conveniently eases the need for cognitively maintaining the individuality of each item (Mackie, Hamilton et al. 1996).

Affective mechanisms, which contribute to the formation of perceptions, are activated when certain groups become the focus of attention while repeated and unreinforced exposure to that stimulus will enhance attitudes towards the stimulus (Zajonc 1968). This mechanism was activated when the non-accounting participant associated accounting with banking. Meanwhile, the accounting students’ perception of accounting was activated by the experience of undertaking repetitive scorekeeping exercises in their study of the discipline.

That sociomotivational mechanisms work to identify the relative standing of groups is seen as a key motivator in the development of stereotypes. The only signs of sociomotivational mechanisms at play with the accounting students was the participant who wished to pursue a career in accounting, and the three participants who recognised the employment and remuneration opportunities despite their lack of interest in the work. The respondent who wished to pursue a career in accounting was the only participant in the questionnaire who indicated that accounting was prestigious. He was also the only student in the focus group meetings who distinguished between accountants and chartered accountants. In this instance, the participant perceived that chartered accountants received greater financial rewards and undertook more interesting and higher level work. In addition, he was one of only two accounting students to indicate that the media had influenced personal understanding. Additionally, three non-accounting students who perceived bank employees as performing accounting duties perceived a career at a bank was “*well regarded*”, “*paid good money*” and “*provided opportunities for advancement*”. A fourth participant perceived

accounting as a “*well regarded career*”, with good job opportunities. All four of these participants identified accounting as being prestigious in the questionnaire.

Cultural mechanisms appeared to have greater influence on the perceptions of the non-accounting students than the accounting students. One non-accounting participant was influenced in her understanding of accounting through an association with the mother of one of her friends. Two non-accounting participants, who until the interview were uncertain as to the duties of accountants, were observed to redefine their understanding of accounting to include the work of people in banks as a result of one participant’s contributions to the discussion. Another was influenced by his father’s association with an accountant, and three non-accounting participants’ perceptions of accounting had been influenced by discussions with fellow students who had studied accounting at school.

Interestingly there was general agreement on only ten questionnaire items (28%) among the non-accounting student participants. This result may be explained by the limited influence of affective, cultural, and sociomotivational mechanisms in perception formation combined with a lack of motivation and capacity to activate cognitive mechanisms. A consequence of this limited influence was a perception of accounting which lacked both context and role specificity and hence contributed to a very abstract perception of accounting and accountants.

Perception Influences

That both groups’ perceptions of accounting were not influenced through exposure to, and association with accountants, suggests that individual accountants themselves did not take advantage of opportunities to discuss with participants what accounting is about. The solution to this dilemma is not clear-cut given the view that the duties of accountants are so broad and diverse as to defy definition (Robertson and Cotton 2004).

This study further found that the media appeared to have little influence on the perceptions of non-accounting students, who had a more abstract perception of accounting. Changing the perceptions of this group, who already held positive perceptions regarding the availability and remuneration levels of accounting positions, would require less effort than in the case of accounting students who have been so heavily influenced by the curriculum.

The effect of financial rewards for accountants on how the profession was perceived, was greater among non-accounting students than accounting students. The financial rewards of accounting careers were also credited by the non-accounting participants as contributing to the prestige of the profession. The assumed level of these rewards was so impressive as to influence the non-accounting students' willingness to pursue a career in accounting. This aspect was very surprising given that these students thought they would not enjoy performing the perceived duties due to the excessive involvement with numbers. As a consequence it would appear that esteem-related factors had the greatest influence on most of the non-accounting high school students' perceptions of accounting.

Meanwhile, the influence of the curriculum on the accounting students supports claims by Zajonc (1968) that repeated and unreinforced exposure to a stimulus, in this case repetitive bookkeeping exercises, will enhance attitudes towards that stimulus. The completion of repetitive exercises forms the basis of the exemplar models the students develop of accounting. These exemplar models are the stimuli that in turn activate the affective mechanisms which influence the students' negative perceptions of accounting.

Discussion

High school students who had studied accounting at school appeared to have had a very limited perception of accounting based on their exposure to the high school accounting curriculum. These students' perceptions were very role specific and focused on the

repetitive process of scorekeeping while at the same time lacking an understanding of the purpose of scorekeeping or the context in which accounting operated. In other words their understanding of an exemplar model (scorekeeping) had been activated by an affective mechanism. As a consequence their perceptions were informed by repeated exposure to those repetitive processes which Mackie et al. (1996) claim will enhance attitudes to that stimulus. A further consequence of this influence is that attitudes based on experience rather than cultural influence are relatively strong and more resistant to change (Hewstone 1996).

High school students who had not studied accounting, on the other hand, appeared to have more abstract perceptions of accounting and accountants both in terms of role and context. One example of the influences of cultural and sociomotivational mechanisms was where three participants associated everything relating to banking as accounting. While banking was positively perceived as an accounting career, it was probably not a very accurate representation of accounting as a profession and thus overgeneralised the role and context of accounting based on a broader and less specific role, i.e. the custodianship of money.

In the same way cultural mechanisms led to the accounting students' negative perceptions of accounting being transmitted to their non-accounting peers. The accounting students (who focused on the scorekeeping role of accounting) perceived accounting to be repetitive and hence boring, and the non-accounting students accepted these labels from their fellow students without understanding why their peers perceived accounting to be repetitive and boring. These influences are of concern given that subjects who receive stereotypes intact before learning about individual members of the group are more likely to perceive less variability in the group overall and to use stereotypic information to make judgements such as career selection (Smith and Zarate 1990).

The analysis of group perceptions in the previous section relating to the focus group responses showed that perception was influenced most by the classroom experience of the accounting student participants and was represented by exemplar models. The nature of this classroom experience contributed to the formation of a perception which was activated by an affective mechanism based on a single, specific, repetitive role in an abstract context.

The effect of overgeneralising appears to create a very limited perception based on single exemplar models that do not reflect the diverse roles performed by accountants. It is this polarisation of views that leads to an incomplete understanding among high school accounting students of what accounting is and what accountants do. As the non-accounting students' perception of accounting generally lacked specificity in terms of both role and context, their perceptions of accounting were very abstract in terms of role but sometimes specific in terms of context. These findings are illustrated in Figure 3.

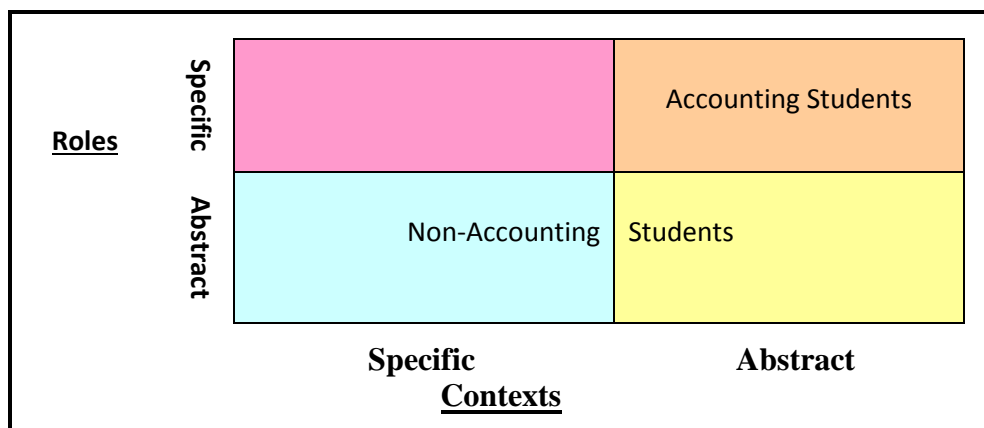


Figure 3:Role/context matrix

The implication of these findings is that the participant perceptions had formed through multiple processes, and without an understanding of the relative influence of each process it is unclear how individual perceptions could be changed. However, there did appear to be a link between the perceptions of accounting held by accounting students and those non-accounting students who had spoken about accounting with accounting students. The consequences of this link would be that changing the accounting students' affective

mechanisms through a change in classroom experience would also be likely influence the cultural mechanisms which influenced the non-accounting students' perceptions of accounting and accountants.

In seeking to change perceptions, those participants with out-group perceptions of accounting and accountants will be the most difficult to change as it is necessary to dismantle the out-group perception before attempting to develop an in-group perception. It is surprising that from this group of participants there were few out-group perceptions, even from those who had no desire to embark on a career in accounting.

The motivations for the formation of these perceptions will also have an impact on the effort required to change these participants' perceptions. While perceptions that develop for epistemic reasons are the easiest to change (this is due to the absence of in-group/out-group bias) (Gaertner and Dovidio 1986), the absence of motivation may lead participants, particularly the non-accounting students, to develop a less specific understanding by absorbing accounting into a broader category label.

Hence greater effort would be required to change the accounting students' perceptions. For example, it would be more difficult to convince accounting students that what they do in class is not accounting practice than it would be to convince a student that people who work in banks are not necessarily accountants.

Suggested Change Strategy

Results from the questionnaire and focus groups suggest that accounting students' perceptions of accounting were very narrow and emphasised the scorekeeping process, thereby confirming Albrecht and Sack's (2000) concern with the emphasis on bookkeeping in the high school accounting curriculum.

These findings suggest that changes to the curriculum which have been evaluated with university-level students (Teixeira 2002) should also be trialled in high schools, if indeed there is a general agreement on the desirability of changing perceptions of high school accounting students. For example, greater emphasis could be placed on the context in which the accounting process operates and its effect on the entity rather than on the accounting process devoid of the context. Such a strategy could be implemented through the use of teaching case studies.

The understanding of accounting among accounting students related to single specific exemplar models which were consistent with the stereotypical scorekeeping-focused perceptions people have of accounting.

The current curriculum provides for the teaching of accounting independently of context and hence reduces the discipline to a generic series of processes that students complete in a repetitive manner. This curriculum has undergone little change during the past thirty years and demonstrably fails to reflect the growing importance of financial literacy. It seems that the limited range of repetitive tasks performed and the absence of context contributes to the student perception that accounting is boring. Of further concern is the revised accounting syllabus planned for implementation from 2011. This new syllabus is linked with the New Zealand Curriculum (Ministry of Education 2007) through the Mathematics rather than Social Sciences strand, thus perpetuating the problem of a narrow focus on financial accounting and scorekeeping which undervalues the influence of accounting on everyday life.

The researcher asserts that the failure of NZCETA to make connections between accounting and the social sciences learning area of the new school curriculum tends to reduce accounting to a purely abstract mathematical process devoid of context. The researcher further contends that accounting is about communicating information on economic activity

to facilitate decision making and is not limited to the measurement of assets and periodic earnings (American Accounting Association 1966). As such accounting should therefore link with the social sciences component of the curriculum. Until this relationship between accounting and the social sciences is established, there is unlikely to be any noticeable shift away from a focus on scorekeeping high school studies of the discipline.

It is therefore recommended that both the content and pedagogy of the high school accounting curriculum be revised and brought up to date. The content scope would be based on the American Accounting Association (1966) definition of accounting and would explore how accounting decisions influence everyday living. Meanwhile a pedagogical review would entail teaching accounting in a context using a case-based approach and promote integration with other business disciplines.

Conclusion

The purpose of this study was to ascertain how and why high school students formed their perceptions of accounting and accountants. The social psychology literature on stereotyping suggests that perception formation is influenced by the combined effects of cognitive, affective, socio-motivational and cultural mechanisms (Mackie, Hamilton et al. 1996). This investigation unmask to some extent how these mechanisms influence the perceptions of accounting and accountants held by high school students.

The findings suggest that the accounting curriculum has much greater influence on accounting students' perceptions of accounting than does exposure to accountants. The robustness of this influence was noticeably more consistent across the accounting student group.

Results from the questionnaire would suggest that this view is very narrow and emphasises the accounting process, thereby confirming conclusions drawn by Albrecht and Sack (2000).

These findings would suggest that changes to the curriculum which have been evaluated with university-level students (Teixeira 2003) should also be trialled to change the perceptions of high school accounting students. That both groups' perceptions of accounting were not influenced through exposure to, and association with, accountants suggests that accountants themselves did not take advantage of opportunities to discuss with participants what accounting is about. This dilemma is not assisted by literature which suggests that the duties of accountants are so broad and diverse as to defy definition (Robertson and Cotton 2004).

High school accounting students' perception of accounting appeared to totally ignore the context in which accounting operates, thus limiting their understanding of how accounting could be of benefit to them. As a consequence, their perception of accounting appeared limited to scorekeeping, a role specific process that they repeated many times during their studies. It follows that the repetitive nature of their work in this subject contributed to their perception that accounting was boring and monotonous.

Meanwhile the non-accounting high school students' perceptions of accounting lacked specificity of role and context. This lack of specificity may explain why there was significantly less agreement on what accounting involves among this group. For the participants in this group who did identify a context, there was no understanding of a role within that context and instead they generalised all work in that context to be accounting. The difficulty in changing the perceptions of this group was that they did not perceive any dependency on accountants and so to maintain cognitive efficiency they retained their existing generalised understanding. These findings confirm the stereotypical perceptions of accounting and accountants are over-determined in that they develop from multiple processes (Mackie, Hamilton et al. 1996).

The effect of financial rewards for accountants on the perception of the profession was greater for non-accounting students than for accounting students. The financial rewards of accounting careers were also credited by these participants as contributing to the prestige of the profession. The assumed level of these rewards was so great as to influence the non-accounting students' willingness to pursue a career in accounting. This aspect was very surprising given that these students thought they would not enjoy performing the perceived duties due to the excessive involvement with numbers.

The major limitation of this study is the inability to generalise from the findings due to the small number of participants. This initial evaluation does, however, create opportunities for further research. The most obvious is to extend this study to more students from other high schools and in other localities. The second opportunity is to replicate the study with a wider cross section of the community rather than just limiting it to high school students. The third opportunity is to apply culture and gender filters. In so doing, we may gain a better understanding of the multiple processes that contribute to the formation of the accountant and accounting stereotype.

References

- Accounting Education Change Commission (1990). "Objectives of education for accountants: Position statement number one." Issues in Accounting Education **5**(2): 307.
- Adams, S. J., L. J. Pryor, et al. (1994). "Attraction and retention of high-aptitude students in accounting: An exploratory longitudinal study." Issues in Accounting Education **9**(1): 45-58.
- Ahmed, K., K. F. Alam, et al. (1997). "An empirical study of factors affecting accounting students' career choice in New Zealand." Accounting Education **6**(4): 325-335.
- AICPA (2000). Topline report. New York, AICPA.
- Albrecht, W. S. and R. J. Sack (2000). Accounting Education: Charting the course though a perilous future. Sarasota, FL, American Accounting Association.
- Allen, C. L. (2004). "Business students' perception of the image of accounting." Managerial Auditing Journal **19**(2): 235-258.
- American Accounting Association (1966). A statement of basic accounting theory. Sarasota, FL, AAA.
- American Accounting Association (1986). "Future accounting education: Preparing for the expanding profession (The Bedford Report)." Issues in Accounting Education **1**(1): 168-195.
- Arthur Andersen, Arthur Young, et al. (1989). Perspectives on education: Capabilities for success in the accounting profession. New York: 15.
- Barbour, R. S. and J. Kitzinger, Eds. (1999). Developing focus group research. London, Sage.
- Bedeian, A. G., K. W. Mossholder, et al. (1986). "The accountant's stereotype: An update for vocational counselors." Career Development Quarterly **35**(2): 113-22.
- Bloor, M., J. Frankland, et al. (2001). Focus Groups in Social Research. London, Sage.
- Byrne, M. and P. Willis (2005). "Irish secondary students' perceptions of the work of an accountant and the accounting profession." Accounting Education: an international journal **14**(4): 367-381.
- Chacko, H. E. (1991). "Can you pick out the accountant? Students' interests and career choices." Journal of Education for Business **66**(3): 151-154.
- Chen, C. C., K. T. Jones, et al. (2003). A Reexamination of the factors important to the selection of accounting as a major. AAA 2003 Annual Meeting, Hawaii.
- Cohen, J. and D. M. Hanno (1993). "An analysis of underlying constructs affecting the choice of accounting as a major." Issues in Accounting Education **8**(2): 219-238.
- Coleman, M., J. Kreuze, et al. (2004). "The new scarlet letter: Student perceptions of the accounting profession after Enron." Journal of Education for Business **79**(3): 134-141.
- Cory, S. N. (1992). "Quality and quantity of accounting students and the stereotypical accountant: Is there a relationship?" Journal of Accounting Education **10**(1): 1-24.
- Dodson, N. J. and J. C. Price (1991). "Who is tomorrow's CPA?" Ohio CPA Journal **Sept/Oct**: 9-14.
- Enis, C. R. (1998). "The effect of gender on role perceptions of accountants: Twenty years through the looking glass." Advances in Public Interest Accounting **7**: 107-138.
- Enis, C. R. (2006). The role of gender on the image of accountants: A thirty year perspective. 2006 AAA Annual Meeting, Washington DC, American Accounting Association.
- Erickson, S. (2006, 1 November 2006). "Student's attitude of accounting as a profession: Can the video "Takin' Care of Business" make a difference?" Accounting Instructors' Report Newsletter Retrieved Winter, 2006, from http://college.hmco.com/accounting/resources/instructors/air/winter_2006/index.html.
- Fedoryshyn, M. W. and T. N. Tyson (2003). "The impact of practitioner presentations on student attitudes about accounting." Journal of Education for Business **78**(5): 273-284.
- Felton, S., N. Buhr, et al. (1994). "Factors influencing the business student's choice of a career in chartered accountancy." Issues in Accounting Education **9**(1): 131-141.
- Felton, S., T. Dimnik, et al. (1995). "A theory of reasoned action model of the chartered accountant career choice." Journal of Accounting Education **13**(1): 1-19.

- Fisher, R. and V. Murphy (1995). "A pariah profession? Some student perceptions of accounting and accountancy." Studies in Higher Education **20**(1): 45-58.
- Friedman, A. L. and S. R. Lyne (2001). "The beancounter stereotype: Towards a general model of stereotype generation." Critical Perspectives on Accounting **12**(4): 423-451.
- Gaertner, S. L. and J. F. Dovidio (1986). The aversive form of racism. Prejudice, discrimination and racism. J. F. Dovidio and S. L. Gaertner. Orlando, Academic Press: 61-90.
- Garner, R. M. and R. F. Dombrowski (1997). "Recruiting the best and the brightest: The role of university accounting programs and state CPA societies." Issues in Accounting Education **12**(2): 299-314.
- Geiger, M. A. and S. M. Ogilby (2000). "The first course in accounting: Students' perceptions and their effect on the decision to major in accounting." Journal of Accounting Education **18**(2): 63-78.
- Graves, O. F., I. T. Nelson, et al. (1993). "Accounting student characteristics: Results of the 1992 Federation of Schools of Accountancy (FSA) survey." Journal of Accounting Education **11**(2): 211-225.
- Graves, O. F., I. T. Nelson, et al. (1993). "Accounting student characteristics: Results of the 1992 federation of schools of accountancy survey." Journal of accounting education **11**(2): 211-255.
- Gul, F. A., B. H. Andrew, et al. (1989). "Factors influencing choice of discipline of study - Accountancy, engineering, law and medicine." Accounting and Finance **29**(2): 93-101.
- Hamilton, D. L. (1981). Cognitive processes in stereotyping and intergroup behaviour. Hillsdale, NJ, Erlbaum.
- Hardin, J. R., D. O'Bryan, et al. (2000). Accounting versus engineering, law, and medicine: Perceptions of influential high school teachers. Advances in Accounting. P. M. J. Reckers. Stamford, CT, JAI. **17**: 205-220.
- Hartwell, C. L., S. S. Lightle, et al. (2005). "High school students' perceptions of accounting." The CPA Journal **75**(1): 62-67.
- Heffes, E. M. (2001). "Making accounting relevant and attractive." Financial Executive **17**(3): 49-52.
- Hermanson, D. R., R. H. Hermanson, et al. (1995). "Are America's top business students steering clear of accounting?" Ohio CPA Journal **54**(2): 26-30.
- Hewstone, M. (1996). Contact and categorisation: Social psychological interventions to change intergroup relations. Stereotypes and stereotyping. C. N. Macrae, C. Stangor and M. Hewstone. New York, Guilford Press: 323-368.
- Holland, J. L. (1973). The psychology of vocational choice. Englewood Cliffs, NJ, Prentice Hall.
- Holt, P. E. (1994). "Stereotypes of the accounting professional as reflected by popular movies, accounting students, and society." New Accountant **9**(7): 24-25.
- Hunt, S. C., A. A. Falgiani, et al. (2004). "The nature and origins of students' perceptions of accountants." Journal of Education for Business **79**(3): 142-148.
- Imada, A. S., C. Fletcher, et al. (1980). "Individual correlates of an occupational stereotype: A re-examination of the stereotype of accountants." Journal of Applied Psychology **65**(4): 436-439.
- Inman, B. C., A. Wenzler, et al. (1989). "Square pegs in round holes: Are accounting students well-suited to today's accounting profession?" Issues in Accounting Education **4**(1): 29-47.
- Jackling, B. (2002). "Are negative perceptions of the accounting profession perpetuated by the introductory accounting course? - An Australian study." Asian Review of Accounting **10**(2): 62-80.
- Jackman, S. and A. Hollingworth (2005). "Factors influencing the career choice of accounting students: A New Zealand study." NZ Journal of Applied Business Research **4**(1): 69 - 84.
- Jeffrey, G. (2002). "Changing the image of accountancy in Mexico." The Accountant: 14.
- Lippmann, W. (1997). Public Opinion. New York, Free Press.

- Mackie, D. M., D. L. Hamilton, et al. (1996). Social psychological foundations of stereotype formation. Stereotypes and stereotyping. C. N. Macrae, C. Stangor and M. Hewstone. New York, Guilford Press.
- Malthus, S. and C. Fowler (2009). "Perceptions of accounting: a qualitative New Zealand study." Pacific Accounting Review **21**(1): 26-47.
- Marriott, P. and N. Marriott (2003). "Are we turning them on? A longitudinal study of undergraduate accounting students' attitudes towards accounting as a profession." Accounting Education **12**(2): 113-138.
- Marshall, C. and G. B. Rossman (2006). Designing qualitative research. Thousand Oaks, CA., Sage.
- Mathews, R., P. Brown, et al. (1990). Accounting in higher education - Report of the review of the accounting discipline in higher education. Canberra, Australia, Department of Education Employment and Training.
- May, G. S., F. W. Windal, et al. (1995). "The need for change in accounting education: An educator survey." Journal of Accounting Education **13**(1): 21-43.
- Ministry of Education (2007). The New Zealand Curriculum: for English-medium teaching in years 1-13. Wellington, Learning Media Ltd.
- Mladenovic, R. (2000). "An investigation into ways of challenging introductory accounting students' negative perceptions of accounting." Accounting Education **9**(2): 135-155.
- Nelson, I. T. and D. S. Deines (1995). "Accounting student characteristics: Results of the 1993 and 1994 Federation of Schools of Accountancy (FSA) surveys." Journal of Accounting Education **13**(4): 393-411.
- Nelson, I. T. and V. P. Venzryk (1996). "Trends in accounting student characteristics: A longitudinal study at FSA schools, 1991-95." Journal of Accounting Education **14**(4): 453-475.
- Nelson, I. T., V. P. Venzryk, et al. (2002). "No, the sky is not falling: Evidence of accounting student characteristics at FSA schools, 1995-2000." Issues in Accounting Education **17**(3): 269-287.
- NZCETA. (2009). "NZ Commerce and Economics Teachers Association Inc, ." Retrieved 30 October 2009, 2009, from <http://www.nzceta.co.nz/>.
- NZQA. (2009). "NCEA Achievement Standards." Retrieved 01 May 2009, 2009, from <http://www.nzqa.govt.nz/ncea/>.
- Oakes, P. J. and J. Turner (1990). Is limited information processing capacity the cause of social stereotyping? European Review of Social Psychology. W. Stroebe and M. Hewstone. Chichester, UK, Wiley. **1**: 111-135.
- Paolillo, J. G. P. and R. W. Estes (1982). "An empirical analysis of career choice factors among accountants, attorneys, engineers, and physicians." Accounting Review **57**(4): 785.
- Parker, L. D. (2000). "Goodbye, number cruncher!" Australian CPA **70**(2): 50-52.
- Robertson, B. and B. Cotton (2004). "Charting our course." Chartered Accountants Journal of New Zealand **83**(1): 6-11.
- Saemann, G. P. and K. J. Crooker (1999). "Student perceptions of the profession and its effect on decisions to major in accounting." Journal of Accounting Education **17**(1): 1-22.
- Smith, E. R. and M. A. Zarate (1990). "Exemplar-based models of social categorization." Social cognition **8**: 243-262.
- Smith, M. and S. Briggs (1999). "From bean-counter to action hero: Changing the image of the accountant." Management Accounting **77**(1): 28-30.
- Smith, M. and S. Briggs (1999). "From beancounter to action hero." Charter **70**(1): 36-39.
- Stangor, C. and M. Schaller (1996). Stereotypes as individual and collective representations. Stereotypes and stereotyping. C. N. Macrae, C. Stangor and M. Hewstone. New York, Guilford Press: 3-37.
- Sugahara, S., K. Osamu, et al. (2006). "Japanese secondary school teachers' perceptions of the accounting profession." Accounting Education **15**(4): 405-418.

- Sundem, G. L. (1999). The Accounting Education Change Commission: Its history and impact. Sarasota, FL, American Accounting Association.
- Tajfel, H. and J. C. Turner (1979). An integrative theory of intergroup conflict. The social psychology of intergroup relations. W. G. Austin and S. Worchel. Monterey, CA, Brooks/Cole: 33-47.
- Tan, L. M. and F. Laswad (2005). "Charting a course into accountancy." Chartered Accountants Journal **84**(3): 59-61.
- Taylor, D. B. and B. R. Dixon (1979). "Accountants and accounting: A student perspective." Accounting and Finance **19**(2): 51-62.
- Teixeira, A. (2002). Charting a first year accounting course beyond peril: A case study. 2002 Annual Meeting of the American Accounting Association. San Antonio, American Accounting Association.
- Teixeira, A. (2003). Improving Student Perceptions and Retention: Re-engineering the first course in accounting through context based learning. Auckland.
- The Gallup Organisation (1991). Accounting Recruiting Research: Survey of high School Students and College Students, The Gallup Organisation.
- Usoff, C. and D. Feldman (1998). "Accounting students' perceptions of important skills for career success." Journal of Education for Business **73**(4): 215-220.
- Warnock, K. (1997). "Selecting the accountants of the future." Accountancy Ireland **29**(3): 6-8.
- Wells, P. K. (2006). "The supply of accounting graduates in New Zealand." New Zealand Journal of Applied Business Research **5**(1): 53-62.
- Wells, P. K. and P. Fieger (2006). "High school teachers' perceptions of accounting: An international study." Australian Journal of Accounting Education **2**(1): 29-51.
- Wells, P. K., P. Gerbic, et al. (2009). "Professional skills and capabilities of accounting graduates: The New Zealand expectation gap." Accounting Education: an international journal **18**(4): 403-420.
- Zajonc, R. B. (1968). "Attitudinal effects of mere exposure." Journal of Personality and Social Psychology **9**: 1-27.