

Dysfunctional behaviour in the modern audit environment:

*The effect of time budget pressure
and auditors' personality type on
reduced audit quality practices.*

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Abstract

The nature of the audit environment means that users of financial statements have no way of assessing the quality of work that is carried out during an audit. Because of this, research is needed to determine what variables cause auditors to engage in dysfunctional behaviours when carrying out audit steps. This study examines the effect that time budget pressure and personality type have on the likelihood that auditors will engage in two ‘reduced audit quality practices’ – prematurely signing off an audit step and accepting a weak client explanation. This was achieved by administering a questionnaire to 168 members of NZICA working in audit, to assess the likelihood they would engage in these two RAQPs in different time budget pressure situations and also to assess their personality type.

The results of this study found that a positive relationship exists between time budget pressure and the likelihood that auditors will engage in one RAQP – premature signoff. It was also found that the personality type of the auditor directly affects their propensity to engage in RAQPs, rather than interacting with time budget pressure as originally hypothesised. These results have many implications for auditors in practice regarding the effect of time budgets that are set and the types of people they employ, and this raises a number of directions for future research in this area.

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Chapter 1:

Introduction

Chapter 1 provides the background to this dissertation by explaining how the research problem has arisen and why there is a need for research in this area. The purpose of and motivation for this dissertation is stated, along with a discussion of what contribution the results of this research will make to both the academic literature and to auditors in practice.

1.1 - Background

Information asymmetry between the management of a company and its stakeholders has brought about the need for independent audits, so that the accuracy of the information a company produces for its financial statements can be monitored. However, users of financial statements are unable to assess the quality of the work carried out by auditors for themselves, due to the nature of the audit function. Because of this, research is needed to determine the circumstances where the quality of an audit may be compromised. Recent corporate collapses worldwide have also added to concerns regarding the quality of work carried out during the audit process and have raised public awareness of these issues.

While auditors' failures to properly carry out audit steps do not directly result in an inappropriate audit opinion being issued, it does increase the likelihood of this occurring (Coram, Ng & Woodliff, 2003). This type of behaviour by auditors has become known in the academic literature as *reduced audit quality practices* (RAQPs) and a number of studies have investigated what variables cause these practices to occur. One particularly relevant variable in today's audit environment that has been associated with RAQPs is *time budget pressure*.

In the 1970's, professional accounting bodies such as the American Institute of Certified Public Accountants (AICPA) ceased to discourage advertising for auditing services and the commercialisation of the auditing profession has developed ever since. This has resulted in audit firms managing costs and maximising their efficiency in order to remain competitive, just like any other organisation (Power, 2003). As audit firms monitor the efficiency of their work through the use of time budgets, and use this as the main basis of audit fee determination, it stands to reason that time budgets are becoming tighter as this competitiveness increases.

Recent studies have shown that time budget pressure is perceived to be a real problem by auditors. Pierce and Sweeney (2004a) showed that auditors perceive that time budget pressure in audit firms has increased over time, that the current level of time pressure is far higher than optimal and that there is a greater likelihood of dysfunctional behaviour the higher the levels of time budget pressure. Occurrences of

this dysfunctional behaviour are shown in Coram et al. (2003). In this study, 63% of respondents indicated that they ‘sometimes’ engaged in RAQPs. Of this 63%, the majority cited low-risk audit work and time budget pressure as the reasons for engaging in these behaviours¹. The effect of time budget pressure on these behaviours has also been shown in New Zealand firms. For example, McNamara (2004) found that instances of two specific types of dysfunctional behaviour that can occur in an audit environment significantly increase as the perceived attainability of time budgets decreases.

It is because of these findings that the motivation for this study has arisen. The consequences of reduced levels of audit quality due to time budget pressure can easily be seen – it is more likely that an inappropriate audit opinion could be issued in these circumstances. Therefore, research regarding situations when the quality of an audit is likely to be compromised is imperative, so that the situation can be avoided or the consequences rectified.

1.2 - Purpose

These issues have resulted in a branch of research that empirically tests the effect of time budget pressure on audit quality. The purpose of this dissertation is to extend this growing body of literature by examining the effect of time budget pressure on audit quality along with a potential moderator variable, personality type. As stated by Coram, Ng & Woodliff (2004), not all auditors’ reactions will be the same under time budget pressure, irrespective of the circumstances. Furthermore, psychology research has shown that certain people are more likely to engage in dysfunctional behaviours than others when stress levels become higher (Jackson & Schuler, 1985; Maule & Svenson, 1993). It is for these reasons that the personality type of the auditor is investigated as a potential moderator of the relationship between time budget pressure and audit quality.

¹ Of the respondents who stated they had ‘sometimes’ engaged in dysfunctional behaviour, 96.3% stated that they had done so because the work was low-risk, and 77.8% stated they had done so because of time budget pressure (participants could indicate more than one reason).

1.3 - Contribution

This dissertation provides results with a New Zealand perspective for this body of academic literature, and extends existing work by introducing personality type as a moderating variable. The results of this study are useful for practitioners as well as the academic literature. For example, firms should be able to identify circumstances where the quality of an audit may be compromised, such as when auditors are faced with high levels of time budget pressure, and will be able to manage these circumstances appropriately. The inclusion of personality type as a potential moderating variable may help audit firms to design and implement appropriate training and development programs to minimise the effect of RAQPs. Furthermore, audit firms will be able to identify the attributes they are looking for in potential employees during their recruitment process.

1.4 – Structure

The remainder of this dissertation is structured as follows. In the next chapter, a review of the literature surrounding this topic will be given, and the hypotheses for this study will be developed in chapter three based on this discussion. An overview of the method used to test these hypotheses will follow in chapter four, and the results of the tests will then be given in chapter five. Finally, in the sixth chapter, a discussion of the results and conclusions will be provided, along with the limitations of this research and possible areas of research that need to be addressed in the future.

Chapter 2:

Literature Review

The purpose of this chapter is to give an overview of the theory from which the hypotheses were generated. Firstly, a discussion of the body of literature investigating audit quality will be provided, along with a specific branch of this literature that looks at reduced audit quality practices. Studies that investigate time budget pressure as an explanatory variable of these practices will then be reviewed and finally the theory behind investigating personality type as a moderating variable of this relationship will be discussed.

2.1 - Audit quality

Research regarding the quality of work carried out in audits is imperative, as financial statement users have no way of assessing the process by which an audit opinion is obtained. Because of the importance of this topic, a large and varying body of literature exists that investigates many different aspects of audit quality, such as auditor reputation², auditor monitoring strength³, information credibility⁴ and information quality⁵.

The professional literature tends to define audit quality with respect to how an audit conforms to the relevant auditing standards, whereas the academic literature identifies many different dimensions to audit quality (Hillison, Morecroft & Watkins, 2004). The reason for this is that audit quality is a very complex variable to define. The most commonly cited definition of audit quality in the academic literature⁶ is from DeAngelo (1981) who defines audit quality as:

“the market-assessed joint probability that a given auditor will both (a) discover a breach in the client’s accounting system, and (b) report the breach” (p. 186).

This definition describes audit quality in terms of audit risk, while also capturing the aspects of auditor independence, auditor competence and auditor reputation (Hillison et al., 2004). This definition suggests that higher quality audit services will result in higher levels of assurances and lower levels of audit failure (Palmrose, 1988). Other definitions of audit quality tend to be variations of this definition. For example, Hillison et al. (2004) argue that audit quality is a function of:

- the degree to which an audit complies with auditing standards,
- the probability that auditors will discover material errors present in financial statements and report on these errors,
- the probability of not issuing an unqualified report when errors are present, and
- the overall accuracy of the information reported on by auditors.

² E.g. Beatty (1986), DeFond (1992) Lee, Stokes, Taylor & Walter (2003).

³ E.g. DeAngelo (1981), Bell, Landsman & Shackelford (2001), Krishnan (2003).

⁴ E.g. Beatty (1989), Jang & Lin (1993).

⁵ E.g. Frankel, Johnson & Nelson (2002), Kinney & Libby (2002), Reynolds, Deis & Francis (2004).

⁶ See Hillison et al. (2004) who argue that most definitions of audit quality reflect some aspect of this definition (p154).

Because of the difficulty in defining this concept, many different proxies for audit quality have been developed in the literature, such as auditor size (DeAngelo, 1981; Francis & Wilson, 1998), litigation against auditors (Palmrose, 1988) and auditor reputation (Grimlund & Wilson, 1990). Another, more recent, approach to measuring audit quality is to ‘look behind the audit veil’ to assess the quality of the work that is carried out on actual audit steps (Coram et al., 2003, p38). This approach involves investigating aspects of work that take place in what Power (2003, p380) refers to as ‘the complex back stage of practice’ in audits. This has led to a branch of research investigating the propensity for auditors to engage in what is generally known as ‘reduced audit quality practices’, or RAQPs.

2.2 - Reduced audit quality practices (RAQPs)

RAQPs are defined by Malone and Roberts (1996) as:

“actions taken by an auditor during an engagement which reduce evidence gathering effectiveness inappropriately”. (p. 49).

This branch of research arose from studies showing that auditors were not always acting appropriately when carrying out audit steps. The original driver of this was a report issued by the AICPA’s Cohen Commission⁷ in 1978. This report showed that it is not uncommon for auditors to signoff audit programs before completing the required steps, without recording the omission of these steps or covering these steps by other parts of the audit (Alderman & Deitrick, 1982). Specifically, 58% of respondents had, at one point, resorted to a premature signoff of an audit step.

This report showed the public just how susceptible audits are to individuals’ actions. The study that formed the basis of the Cohen Commission Report has been replicated and extended, and similar results have been found. For example, Alderman and Deitrick (1982) found that 31% of people agree that premature sign-off takes place in their organisation, while Raghunathan (1991) found that 55% of people have prematurely signed off audit steps. These studies show that a problem does exist, and this problem justifies the need for research into these matters.

⁷ This report is not available to the public. References to this report have been obtained from other literature e.g. Alderman & Deitrick (1982) and Raghunathan (1991).

Aside from premature signoff of an audit step, a number of other behaviours have been identified as those that directly reduce the quality of an audit. The RAQPs that are most commonly researched can be summarised into the following behaviours⁸:

- Prematurely signing off an audit program step,
- Making a superficial review of client documents,
- Failing to properly research an accounting principle,
- Failing to pursue a questionable item in the audit,
- Rejecting an awkward item from a sample, and
- Accepting weak client explanations.

Recent studies have also shown the propensity for these acts to occur in practice – a study by Donnelly, O’Byrne & Quirin (2003) found that 89% of auditors surveyed from the ‘Big 6’ accounting firms admitted to engaging in at least one of these RAQPs. In a study of audit seniors in three of the Big 6 firms in Ireland, Otley & Pierce (1996) found that 28% of audit seniors admitted to prematurely signing off an audit step at least ‘sometimes’ and 37% accepted weak client explanations at least ‘sometimes’. Coram et al. (2003) found that 63% of participants surveyed in Australia said they had ‘sometimes’ engaged in RAQPs, though no participants said they had ‘often’ done this. This shows that although the incidences of these behaviours may be low, these practices do still occur and therefore are highly problematic. Although committing RAQPs during an audit does not necessarily mean that an inappropriate audit opinion will be issued, it does increase the chance of this occurring (Coram et al., 2003). Therefore, research regarding factors that cause auditors to engage in these behaviours is highly relevant and necessary.

2.2.1 – What leads to RAQPs?

A comprehensive body of research taking place during the late 1980s and the 1990s investigated the impact that many different variables have on RAQPs. Margheim & Pany (1986) investigated the effect of quality control and review procedures and firm characteristics on RAQPs in a U.S. setting. They found that an auditor’s perceived necessity of audit steps was significantly related to incidences of RAQPs. Also in the U.S., Kelley & Margheim (1987 & 1990) looked at whether the personality

⁸ From studies such as Kelley & Margheim (1990), Malone & Roberts (1996) Coram et al. (2003 & 2004) and Pierce & Sweeney (2004b)

characteristics of an auditor, time budget pressure or firm characteristics could explain the propensity for auditors to engage in RAQPs, with little significant findings. Willet & Page (1996) also looked at time budget pressure as an explanatory variable and found a significant relationship between this variable and the propensity for recently qualified auditors in the U.K. to commit RAQPs. Malone & Roberts (1996) tested perhaps the most comprehensive model of factors that could possibly explain RAQPs. They investigated the effect that personality characteristics, professional characteristics, quality control and review procedures, audit firm structure and time budget pressure had on RAQPs. They found an auditors' need for approval and achievement and firms' quality control and review procedures to be significantly related to the likelihood of auditors committing RAQPs.

Research regarding most of these very complex explanatory models soon ceased, as they led to inconsistent results between studies. During the mid 1990's however, concerns about the effect of time budget pressure on auditing practice were still being expressed in the literature. This focus soon developed into a separate branch of research, attempting to provide a singular, yet powerful explanation for RAQPs⁹.

2.3 - Time budget pressure

2.3.1 – Types of time pressure in the audit environment

The literature identifies two distinct forms of time pressure in the audit environment; time *budget* pressure and time *deadline* pressure (DeZoort, 1998; Pierce & Sweeney, 2004a; Kelley, Margheim & Pattison, 2005). Time budget pressure occurs when a firm allocates a scarce amount of hours for auditors to complete specified procedures within, while time deadline pressure arises when it is difficult for auditors to complete work by a required deadline (Kelley et al., 2005). This dissertation focuses exclusively on time budget pressure for the following reasons. Kelley et al. (2005) investigated the effect of these two different forms of time pressure on auditor behaviour and noted the importance of distinguishing between the two when conducting research. These authors showed that while both forms of time pressure have an influence on auditors, only time *budget* pressure influences the behaviour of

⁹ See section 2.3.3 for a discussion of these studies.

senior auditors, and also found that time budget pressure is more associated with certain dysfunctional behaviours than time deadline pressure. While time budgets can serve as a useful management control tool in auditing firms by assisting in planning, allocating staff and the efficient performance of audit programs, excessive emphasis on time budgets can have a detrimental effect on behaviour (Alderman & Deitrick, 1982).

2.3.2 – Time budget pressure in the modern audit environment

Time pressure in general has been shown to have a detrimental impact on individuals' decision-making processes. For example, Edland & Svenson (1987) showed that individuals' accuracy of performance tends to decline when faced with time pressure. It is well known that stress and performance tend to have an inverted relationship, and that time pressure can be a major cause of stress (Maule & Svenson, 1993). Whether time budget pressure in the audit environment has a positive or negative effect on auditors has been disputed in the literature. Some benefits attributable to time budget pressure include an increased focus on the task, decreased attention to irrelevant information and increased work efficiency. (Kelley & Seiler, 1982; Cook & Kelley, 1988; DeZoort, 1998). However, it is the negative effects of time budget pressure that cause concern to practitioners and academics - these include inadequate work on audit steps, underreporting time, feelings of failure, job burnout and dissatisfaction and increased levels of turnover (Kelley & Seiler, 1982; Cook & Kelley, 1988; DeZoort, 1998).

This has become especially relevant in today's audit environment as it is evident that time budgets are becoming increasingly difficult to meet, placing auditors under more stress (DeZoort, 1998; McNamara, 2004). Liyanarachchi & McNamara (forthcoming) show that auditors' perceptions of time budget pressure have increased over time in New Zealand, with more auditors considering time budgets to be 'very tight, practically unattainable' and less auditors describing time budgets as 'attainable with reasonable effort or very easy to attain'. This increase in time budget pressure is partly due to the fact that time budgets are closely related to audit fees, and with the high level of competition between audit firms, firms are striving to complete the same amount of work in less time in order to remain competitive (Cook & Kelly, 1991).

The result of this is that auditing firms are faced with a cost-quality (or commercial-professional) conflict - i.e. a potential struggle between upholding professional auditing ethics and standards and the commercial viability of the firm (Pierce & Sweeney, 2004b). Time budgets can reflect these conflicting goals to auditors as they are used to plan the audit (i.e. so a desired profit is obtained) and also to evaluate the performance of the auditors (with respect to the quality of the audit work carried out) (McNair, 1991).

2.3.3 - Time budget pressure and RAQPs

Time budget pressure in an audit environment can lead to people acting positively, i.e. by asking for more time to complete work in, or negatively, i.e. by engaging in RAQPs (Cook & Kelley, 1991). Studies have shown that people do respond negatively to time budget pressure - over 30% of New Zealand respondents to a survey by Cook and Kelley (1991) admitted to at least occasionally reducing the quality of their work to meet time budgets. Of the 70% of audit seniors surveyed by Willet & Page (1996) who admitted to engaging in dysfunctional auditing practices, 60% of participants cited time budget pressure as a factor in committing these acts. Finally, Otley & Pierce (1996) found a pattern of increasing incidences of RAQPs as the level of time budget pressure increases.

The literature has shown that auditors may respond to time budget pressure with two different forms of dysfunctional behaviours, under-reporting time and RAQPs (Pierce & Sweeney, 2004b). This study focuses on RAQPs as these behaviours are more likely to have serious consequences on the quality of an audit. Studies such as those by Raghunathan (1991), Malone & Roberts (1996), Otley & Pierce (1996), Willet & Page (1996), McNamara (2004), Coram et al. (2003 & 2004) and Pierce & Sweeney (2004a & 2004b) have empirically or qualitatively investigated the direct relationship between time budget pressure and RAQPs, all with varying degrees of findings, and this dissertation will extend this area of research.

Although the relationship between time budget pressure and RAQPs may appear to be straightforward, at times the studies mentioned previously have found inconsistent results when trying to relate increased levels of time budget pressure with an increased likelihood for auditors to commit RAQ behaviours. DeZoort (1998)

suggests that this is because many other variables are apparent in the dynamic audit environment. This was demonstrated by McNamara (2004), who found that the type of firm auditors work for moderates the relationship between time budget pressure and RAQPs. This indicates that the effect of time budget pressure should not be considered alone.

2.4 - Potential moderators

2.4.1 – Moderating variable studies

A small number of studies have investigated whether the relationship between time budget pressure and RAQPs is moderated by other variables. Kelley & Margheim (1990) investigated whether this relationship is moderated by certain auditor characteristics such as consideration towards staff auditors, senior structuring of staff job tasks and the personality type of the staff and the manager in charge of the audit, but with no significant findings. Coram et al. (2004) investigated whether the risk of misstatement inherent in an audit moderates the effect of time budget pressure on audit quality and found this to be true for one of the two RAQPs investigated. This finding emphasised the importance of distinguishing between RAQPs when conducting research, as previous studies have often treated RAQPs as being homogenous. Finally, McNamara (2004) found that staff at Big 4 audit firms and audit juniors and seniors are more likely to engage in RAQPs under time budget pressure.

It is logical to assume that auditors' reactions under time budget pressure will not be the same irrespective of the circumstances. It stands to reason that some people will be more likely to engage in dysfunctional behaviour than others when faced with increasing levels of pressure. This was Kelley & Margheim's (1990) rationale for including the personality type of staff and managers as a potential moderating variable in their study. Although their results were insignificant, this may have been due to their research method, as the authors asked participants to think of one particular audit they worked on and indicate the total number of RAQPs they had engaged in on that audit. Later studies tend to favour scenario-based research instruments and as noted

previously, distinguishing between different types of RAQPs. Because of this, further and more modern research on this topic is warranted.

2.4.2 - Personality type as a moderating variable

This study extends the current literature by re-examining personality type as a moderating variable to the relationship between time budget pressure and RAQPs. Personality characteristics tend to be measured in the business literature by whether people display *Type A* or *Type B* personality characteristics. The Type A behaviour pattern (TABP)¹⁰ is characterised by a number of attributes, such as being aggressive, ambitious, competitive and impatient, experiencing higher levels of stress and having a greater sense of time urgency and commitment to occupational goals than their Type B counterparts (Eysenck & Fulker, 1983). This also has implications for the time budget pressure and audit quality literature – if Type A individuals are more susceptible to becoming stressed with the more pressure they face then they may be more likely to engage in dysfunctional behaviour in these situations. However, another characteristic that typifies individuals with a TABP is a need for approval (Friedman & Rosenman, 1974). In a professional situation, this may mean that people displaying the TABP would be less likely to engage in behaviours that would jeopardise the approval of their peers and superiors. Alternatively, this characteristic may mean that these individuals would be less likely to admit they are struggling with their work.

Because of the issues identified in this discussion, it is believed that personality type may strengthen the relationship between RAQPs and time budget pressure as certain individuals may be more likely to commit RAQPs as pressure levels increase. Therefore, this dissertation will investigate whether the relationship between time budget pressure and the propensity for auditors to commit RAQPs is moderated by the personality type of the auditor in question. In doing so, this study will add a new dimension to this audit quality and time budget pressure body of literature through the introduction of personality type as a moderating variable.

¹⁰ The TABP was originally theorised as a predictor of heart disease in the 1950's but has since been used as a personality measure in many other disciplines.

2.5 – Summary of chapter

Section one of this chapter provided a review of the literature investigating various components of audit quality. The second section discussed a specific branch of this research that looks at the propensity for auditors to engage in RAQPs, and the third section identified time budget pressure as a contemporary issue that may be a driver of RAQPs. Finally, section four identified personality type as a potential moderating variable in the relationship between time budget pressure and RAQPs. From this analysis of previous studies, the hypotheses to be tested are developed in the next chapter.

Chapter 3:

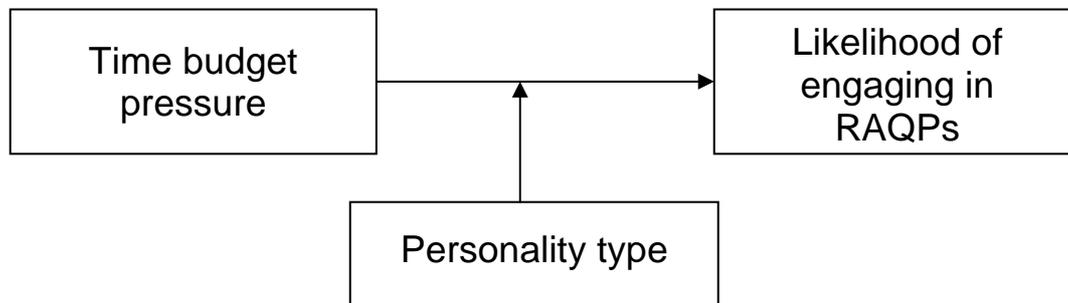
Hypotheses Development

The purpose of this chapter is to provide the conceptual link between the literature reviewed in the previous chapter and the research methods and statistical analysis described in the following chapters. This chapter provides a schematic diagram of the relationships that are tested, gives an explanation of the variables, and develops the hypotheses to be tested.

3.1 – Conceptual framework

The relationships that are being tested can be portrayed in the following diagram:

Figure 1 – Schematic diagram of relationships being tested



This study is using a 2x2 factorial design so that the effects of time budget pressure and personality type can be considered simultaneously. This research design is useful for areas of research where a primary variable (i.e. RAQPs) needs to be tested under a variety of conditions (Cochran & Cox, 1957). This is appropriate for the context of this study as the modern audit environment is very complex and dynamic.

3.2 – Explanation of variables

3.2.1 – Time budget pressure

As portrayed in section 3.1, the *independent* variable being tested is time budget pressure. This is because it is hypothesised that different levels of this variable will result in a variation of the dependent variable, i.e. the likelihood of auditors engaging in RAQPs. Time budget pressure is manipulated as being either high or low in this study, and how this will be done is discussed in section 4.3.1.

3.2.2 – Likelihood of engaging in RAQPs

As stated, the *dependent* variable in this conceptual framework is the likelihood that the auditors surveyed will engage in RAQPs. Specifically, a positive relationship is expected between the independent and dependent variables – i.e. it is theorised that higher levels of time budget pressure will result in a greater likelihood of auditors engaging in RAQPs.

3.2.3 – Personality type

Finally, personality type (measured as Type A or Type B) is portrayed as a *moderating* variable to the relationship between time budget pressure and the likelihood of engaging in RAQPs. This is because it is expected that the personality type of auditors will affect the relationship between time budget pressure and RAQPs by interacting with time budget pressure. It is hypothesised that certain personality types may be more likely to engage in RAQPs as time budget pressure levels increase.

3.3 – Development of hypotheses

Based on the literature reviewed in the previous chapter, a number of hypotheses were developed. As previous studies such as Margheim & Pany (1986), Kelley & Margheim (1990), Malone & Roberts (1996), Otley & Pierce (1996), Willet & Page (1996) McNamara (2004) and Pierce & Sweeney (2004b) have linked higher levels of time budget pressure with increased incidences of the RAQP of prematurely signing off an audit step, it was hypothesised that:

H₁: Auditors are more likely to prematurely signoff an audit step when they experience a higher level of time budget pressure than when they experience a lower level of time budget pressure when performing that audit step.

Similarly, hypotheses were developed in the same manner for the RAQP of accepting weak client explanations. Consistent with studies such as Kelley & Margheim (1990) Malone & Roberts (1996) Otley & Pierce, (1996) and Coram et al. (2004), it is hypothesised that:

H₂: Auditors are more likely to accept a weak client explanation when they experience a higher level of time budget pressure than when they experience a lower level of time budget pressure when performing that audit step.

From the discussion provided in section 2.4 of the literature review, it was concluded that auditors' reactions under time budget pressure will not always be the same irrespective of the circumstances, so time budget pressure and other variables may interact when determining the likelihood for auditors to engage in RAQPs. This belief has resulted in studies such as Kelley & Margheim (1990), Coram et al. (2004) and McNamara (2004) investigating moderating variables to this relationship. As little is known about the effect that personality type has on auditors' behaviour under time budget pressure, the third and fourth hypotheses were developed to explore this relationship and are thus stated in null form:

H₃: Auditors' personality type does not significantly influence the relationship between time budget pressure and the likelihood of auditors prematurely signing off an audit step.

And:

H₄: Auditors' personality type does not significantly influence the relationship between time budget pressure and the likelihood of auditors accepting weak client explanations.

3.4 – Summary of chapter

This chapter provided an explanation of the variables and hypotheses that are the focus of this dissertation. The following chapter will show how these hypotheses are tested.

Chapter 4:

Research Method

This chapter provides an overview of the research method that was used, followed by discussions of the research instrument and how the variables were measured. The sampling method is then described, along with potential reliability and validity issues of the research instrument and a discussion of the data gathered. Finally, the statistical analysis that is used to test the hypotheses is discussed.

4.1 – Research Method

The research methods that have been used in prior studies regarding time budget pressure and RAQPs consist mainly of questionnaires and interviews. As interviews are used to obtain a more qualitative and descriptive view of these issues and were not practical in this case, the questionnaire method was used. The advantage of this research method is that the complete anonymity of the participants can be assured, which is important due to the sensitive nature of the research topic. Participants would be less likely to admit to dysfunctional behaviours when face-to-face with a researcher. However, questionnaires also have the disadvantage that, if participants are hesitant about admitting these actions, they may choose not to respond which may lead to an element of non-response bias.

4.2 – Questionnaire design

The questionnaire used consists of three separate sections. The first section is a scenario of a hypothetical audit which asks participants about their likelihood of engaging in RAQPs in different levels of time budget pressure situations. The second section involves a questionnaire to measure the moderating variable of personality type while the third section consists of demographic questions¹¹. This will be fully explained in the following sections.

4.2.1 – Section one: the audit scenario

The first section of the questionnaire is based on the design of an instrument developed by Coram et al. (2004) which empirically investigates the relationship between time budget pressure and the likelihood of auditors engaging in RAQPs. It involves the use of a scenario, where participants are told that they are involved in the audit of a fictitious company. Background information is given to indicate that no special risks or circumstances are inherent in this audit and details of the time budget for the audit are also given. The advantages of using a scenario in this case is that all participants are given the same information which maximises the likelihood they will

¹¹ See Appendix A for the high time budget pressure version of the first section, Appendix B for the low time budget pressure version of the first section, Appendix C for the personality questionnaire and Appendix D for the demographics section.

interpret the questions similarly, and also that the context in which the RAQPs are being examined can be controlled.

Participants are then told that they are required to complete substantive testing on the inventory section of the audit. Six independent scenarios of possible incidents that could arise during the testing are then given and participants are asked to indicate the likelihood of particular actions - either engaging in a RAQP or asking the audit manager for more time to complete the step in. Using this scenario enables the independent variable of time budget pressure to be manipulated. Two versions of the instrument were constructed - a low time budget pressure version and a high time budget pressure version. The situations and background information are used to indicate to the participant the level of time budget pressure they are under.

Under the high time budget pressure version, participants are told that, because of a re-negotiation with the client, the fee this year has decreased and consequently the time budget has also been decreased. However the same amount of work is expected¹². In both versions, participants are told that it is nearing 5pm and they are meeting the audit manager at 5pm today. This was done to eliminate the possibility of audit staff saying they would complete the work on their own time¹³, so their only options are to ask for more time or engage in a RAQP. In the high time budget pressure version, however, it is specified that the manager wants to *finalise* this section of the audit at 5pm, and that for them to complete the testing, they will have to ask for extra time. It is implied that this is unlikely to be granted.

In the low time budget pressure version participants are told that the same number of hours has been allocated to the audit as last year, and the time budget has always been reasonable for the amount of work that is involved. Participants are also told that they are meeting the manager to *discuss*, rather than *finalise*, this section of the audit, and that the manager is likely to grant them more time to complete the work in as they know the time budget is relatively flexible. From this, the likelihood of auditors engaging in RAQPs under different time budget pressure levels is determined.

¹² The literature has shown this to be a realistic situation - auditors are often faced with having to do the same amount of work in less time in today's highly competitive audit environment.

¹³ This is a common occurrence as shown by studies such as the Cohen Commission Report, Alderman & Deitrick (1982) and Pierce & Sweeney (2004b)

4.2.2 – Section two: personality questionnaire

The second section of the questionnaire was included to assess the personality type of the participants. For this study, Blumenthal's Type A Self-Rating Inventory Scale (TASRI) was used to measure this variable¹⁴ (Blumenthal et al., 1985). The instruments used to measure the TABP in the medical, psychology and business literature are varied. For example, Yarnold & Bryant (1988) describe 15 measures that are commonly used including structured interviews, self-report questionnaires and psychomotor tests. Structured interviews are considered to be the most valid form of assessing the TABP, but are not feasible in research with large sample sizes.

The most commonly used method of assessing the TABP is the Jenkins Activity Survey which is a multi-choice, self-administered questionnaire first published in 1979 (Yarnold & Bryant, 1988). However, this survey is licensed by the Psychological Corporation, costs several hundred dollars to administer, and has to be supervised by a registered psychologist and is therefore also not feasible for this level of research. Blumenthal's TASRI has been shown to be highly correlated with both structured interviews and the Jenkins Activity Survey, is easy to administer, and possesses strong face validity (Yarnold & Bryant, 1994). Therefore, this instrument was deemed appropriate for this study

4.2.3 – Section three: demographic questions

The third and final section of the questionnaire consists of demographic questions. The experience and position of the participant was ascertained so that any differences between these groups regarding their propensity to engage in RAQPs could be determined. Questions about participants' perceptions of time budgets in general were also asked so that the 'bigger picture' of this topic could be examined. Finally a space for comments was included so that participants could say why particular answers were given, or to offer any thoughts they had on this research topic in general.

¹⁴ Permission to use this instrument was obtained from Dr Blumenthal. Slight modifications to the instructions were made to improve clarity.

4.3 – Measurement of variables

4.3.1 – Time budget pressure

The independent variable of time budget pressure was manipulated through administering two different versions of the questionnaire – one implying that the auditor was in a high time budget pressure situation and the other implying the auditor was in a low time budget pressure situation, as discussed in the previous section.

4.3.2 – Likelihood of auditors engaging in RAQPs

Two different RAQPs were measured as the dependent variables in this study. The first RAQP that was measured was ‘premature signoff of an audit step’¹⁵. This was included as this is the most commonly researched RAQP and adding to this body of knowledge is desirable. The second RAQP measured, ‘accepting a weak client explanation’¹⁶, was also included to investigate the occurrences of a RAQP that is not as commonly researched. Only two RAQPs were analysed so that they could be examined separately and to keep the research instrument simple.

Participants were asked to indicate the likelihood they would engage in the RAQPs on a scale from one to five. A five point interval scale was used so that it was more likely that participants would judge the distances between the points on the scale equally. The answers for each of the three scenarios measuring each RAQP were added together to obtain a total score for the likelihood of engaging in each RAQP¹⁷. As discussed in section 4.5.1, reliability testing showed that each of the items measuring the RAQPs appear to have been answered consistently by participants, which justifies adding the scores together.

4.3.3 – Personality type

The moderating variable of personality type was measured in the second section of the questionnaire. Blumenthal’s TASRI consists of 38 personality traits and participants are asked to indicate to what extent each personality trait is true of them. The way in which this is scored is shown in Appendix E. Once all questionnaires have

¹⁵ Shown in scenarios 2, 4 and 6.

¹⁶ Shown in scenarios 1, 3 and 5.

¹⁷ The score for the likelihood of engaging in the RAQP of accepting a weak client explanation is obtained by adding together the answers for scenarios 1, 3 and 5 and the score for the likelihood of engaging in the RAQP of premature signoff of an audit step is obtained by adding together the answers for scenarios 2, 4 and 6.

been scored, those with a score above the median are classified as having a Type A personality and those with a score below the median are classified as having a Type B personality.

4.4 – Sample selection

4.4.1 – Sampling method

The target population for this study originally consisted of provisional and qualified members of NZICA¹⁸ that classified themselves as audit juniors or seniors. This group was originally targeted because research has shown that people at the lower levels of auditing firms are more susceptible to RAQPs, due to the type of work they are involved in and because of the pressure they face (Raghunathan, 1991; Otley & Pierce, 1996). However, as NZICA did not have this information available, the target population was expanded to auditors in general and a question was included in the demographics section of the questionnaire to identify the position of the participants. This enabled statistical analysis to be conducted on the different groups of participants individually.

To obtain a sample for this study, a request was made to NZICA¹⁹. It was agreed that NZICA would send an email to 800 randomly selected members of NZICA working in audit, asking for their participation in this study. Included in this email was a web-link to an online version of the questionnaire. In doing this, a large sample size could be obtained in a very simple manner. However, a trade-off existed as the sample was randomly generated from those who stated audit as being their main area of interest, meaning that internal auditors were also included in the sample, and also that audit juniors and seniors could no longer be targeted individually.

In addition, as initial delays occurred in obtaining this sample from NZICA²⁰, 60 postal questionnaires were also sent to various Big 4 firms around New Zealand to be distributed to audit juniors and seniors before the main sample was obtained.

¹⁸ New Zealand Institute of Chartered Accountants

¹⁹ A copy of the letter to NZICA requesting a sample is included in Appendix F.

²⁰ NZICA originally denied access to a sample of names and addresses on the basis of privacy issues, but a compromise was made in that they would send the email on behalf of the researcher, thus avoiding the disclosure of names and addresses.

4.4.2 – Response rate and demographics

As shown in Table 1, an overall response rate of 19.65% was obtained for this study. Two weeks were given for the completion of the questionnaire. The responses were combined for the purposes of analysis as statistical analysis showed no significant difference between responses to the web and the postal versions (see Appendix G).

Table 1 – Analysis of response rate

	Postal	Web-based	Overall
Number of questionnaires/emails sent	60	800	860
<i>Less: No longer in audit</i>		(5)	(5)
Number returned	38	130	168
Response rate	63.33%	16.35%	19.65%

The majority of the respondents were audit juniors, seniors or managers. The mean years of audit experience for these respondents was 9 years, with a minimum of zero years experience and a maximum of 45 years of experience (see Appendix H).

4.4.3 – Sampling issues

For both the web and postal questionnaires, no reminders could be sent to the participants as individual email addresses were not made known to the researcher. To maximise the response rate, pre-paid return envelopes were included with the postal questionnaires, participants' anonymity was guaranteed in the cover letter to both versions²¹ and the questionnaire was kept as short as possible. However, an element of self-selection bias could still be apparent in both of these sampling methods as it was stated in the cover letter that participation in the questionnaire was voluntary. To try to identify any non-response bias, an analysis was conducted between early and late respondents to both forms of the questionnaire, with late respondents acting as a proxy for non-respondents. This analysis did not identify any significant difference between the early and late respondents to this questionnaire which gives some confidence towards the level of non-response bias in this study²². Finally, as these participants were randomly assigned to a version of the questionnaire and the

²¹ A copy of the cover letters for the web and postal questionnaires is given in Appendices I and J.

²² Early respondents were classified as the first half to respond and late respondents as the last half to respond. This analysis was conducted for both postal and web responses (see Appendix K).

respondents to the web-based questionnaire were randomly chosen, this helped control for any extraneous variables that could potentially affect the results.

4.5 – Instrument reliability and validity

The results of a study are only as valid as the measures used to capture the variables in the conceptual framework, so the *reliability* and *validity* of the research instrument must be determined (Sekaran, 2003). The more reliable and valid that the results of a study are, the more faith that can be put in the causality of the relationship. While the research instrument used in this study would appear to have a high extent of face validity²³, other tests of validity need to be considered, along with the reliability of the instrument to analyse how much confidence can be placed in the results of this research.

4.5.1 – Reliability

The reliability of a research instrument depends on how stable and consistent the results are with respect to measuring the concept (Sekaran, 2003). If this study was repeated by another researcher using the same instrument and similar participants we would expect to find similar results, if the instrument was reliable²⁴. As this instrument has not been used before in its current form, the way in which its reliability can be assessed in this way is limited. However, with respect to the first section of the instrument used in this study, the *inter-item consistency reliability* can be assessed by determining the consistency of participants' responses to the items in the questionnaire measuring the same variable (Sekaran, 2003). By testing the correlation between participants' responses to the scenarios measuring each RAQP²⁵ we can determine whether these scenarios are measuring what they are supposed to measure by how consistent they are. This can be done by determining the Cronbach's Alpha of each measure. The results of this are shown in table 2:

²³ I.e. the items that are included in the instrument look as if they would measure the concepts we are trying to measure, on the face of it. (Sekaran, 2003).

²⁴ This is known as test-retest reliability (Sekaran, 2003).

²⁵ I.e. the correlation between responses to scenarios 1, 3 and 5 (RAQP of accepting weak client explanations) and the correlation between responses to scenarios 2, 4 and 6 (RAQP of premature signoff of an audit step).

Table 2 – Cronbach’s Alpha of RAQP measures

	Cronbach's Alpha	Number of Items
Accepting weak client explanations	.693	3
Premature signoff of audit step	.724	3

The arguments regarding what an acceptable reliability level is are varied. While a Cronbach’s Alpha of at least 0.8 is considered desirable, values above 0.6 are considered acceptable in social science research (Lyberg, Biemer, Collins, de Leeuw, Dippo, Schwarz & Trewin, 1997). Therefore it is concluded that no major reliability issues regarding inter-item consistency are apparent for the measures of RAQPs.

4.5.2 – Validity

4.5.2.1 – Internal and external validity

Another important aspect of a research study is the extent of internal and external validity the study can claim to have²⁶. In this study, the main threat to the external validity of the results is whether the scenarios were realistic. To try to overcome this, the scenarios were pilot tested, which will be discussed in the next section. A number of threats to internal validity can occur²⁷, and the main threat to this study’s internal validity is the self-selection bias of the participants. As discussed in section 4.4.3, no significant differences were found between early and late respondents, with the latter acting as a proxy for non-respondents. This allows us some confidence that self-selection bias is not a major threat, but further implications are discussed in section 6.2 regarding the limitations of this study.

4.5.2.2 – Pilot testing

A number of sources were used to pilot test the instrument for this study, including academics, honours students and those in audit practice. These people were asked to comment on how easy the instrument was to understand and those in practice were asked to comment on the realism of the scenarios. A number of changes were made to the instrument based on the feedback received from pilot testing.

²⁶ External validity refers to how the results can be generalised to other settings or people while internal validity refers to how confident we can be of the causality of the relationships in our conceptual framework (Sekaran, 2003).

²⁷ E.g. history, maturation, testing, instrumentation, selection, statistical regression and mortality effects. For a full discussion see Chapter 5 of Sekaran (2003).

For example, the basis for the fee rise in the high time budget pressure instrument was changed as it was suggested that the original basis, increasing levels of sales, could be considered unethical by auditors. The scenarios were also changed so that participants were asking their audit manager, rather than partner, for extra time as it was pointed out this would be the more likely scenario. Instructions were re-worded to make the participants' task as clear as possible. Finally, a question was added to ask participants about the likelihood they would ask the manager for extra time, so that the participants were not forced into taking one option.

4.6 – Data

The independent variable of time budget pressure takes the form of either high or low and is therefore categorical data. As the dependent variable of RAQPs is being measured through the use of Likert-type scales, interval data is obtained for this variable. The moderating variable of personality type also results in categorical data as the Type A scores are categorised into two groups (Type A and Type B) for the purposes of analysis. The implications of these types of data for statistical analysis will be discussed in the next section.

4.7 – Statistical analysis

As shown in Appendix L, the normality assumption that is necessary for parametric testing was violated in this case²⁸; therefore non-parametric techniques were used for analysis. Because of this and the fact that categorical data was obtained, Categorical Regression with Optimal Scaling (CATREG) was used to analyse hypotheses one and two. This technique quantifies categorical variables using optimal scaling, allowing a linear regression equation to be obtained for the transformed variables (SPSS, Version 13.0). This test has less strict assumptions than parametric tests, therefore making it appropriate to analyse the type of data obtained in this study.

²⁸ Only the normality of the dependent variable was assessed as the other variables were categorical data.

A Univariate Analysis of Variance was used to test hypotheses three and four as categorical regression cannot be used to analyse interaction effects. Although this statistical technique is a parametric test, and this data breaks the normality assumption of a parametric test, a Levene test for equality of variances found no significant differences between the variances of the high and low time budget pressure groups ($p > 0.05$ - see Appendix L). Because of this, this technique was deemed the most appropriate option for this type of analysis as no non-parametric equivalent to this test exists.

4.8 – Summary of chapter

This chapter showed how the hypotheses developed in chapter three were tested. The research instrument and sampling method that were used were described along with reliability and validity issues that arose from this research method. Finally, the statistical techniques that are used to analyse this data were described and justified and the results of this analysis are given in the next chapter.

Chapter 5:

Results

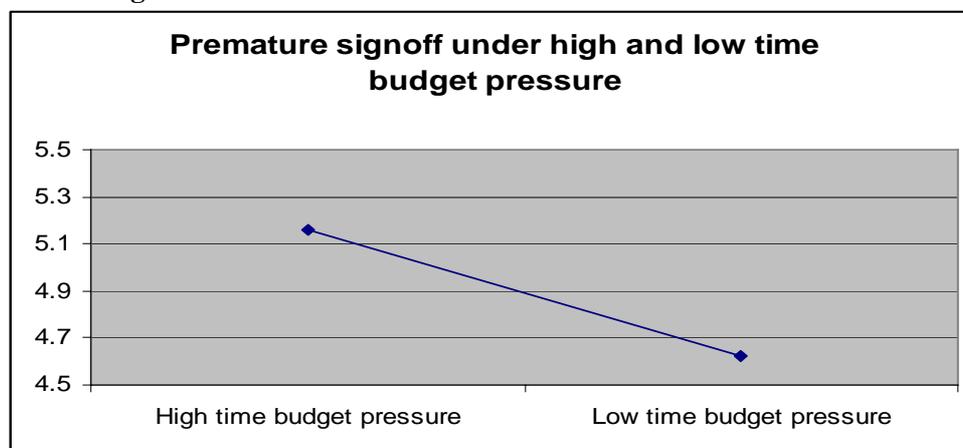
The purpose of this chapter is to present the results of the four hypotheses developed in chapter three. The first section gives a summary of the hypothesis testing. Further tests are also performed to provide additional insights into the results, and this is shown in the second section.

5.1 - Hypothesis testing

5.1.1 – Effects of time budget pressure

As mentioned previously, prior studies such as Coram et al. (2004) have shown that it is important not to treat RAQPs as being homogenous. Therefore, the results for each of the RAQPs that were tested will be discussed separately. Figure 2 shows that the mean score for auditors prematurely signing off an audit step tends to increase as time budget pressure increases:

Figure 2 - Comparison of means under high and low time budget pressure for the RAQP of premature signoff

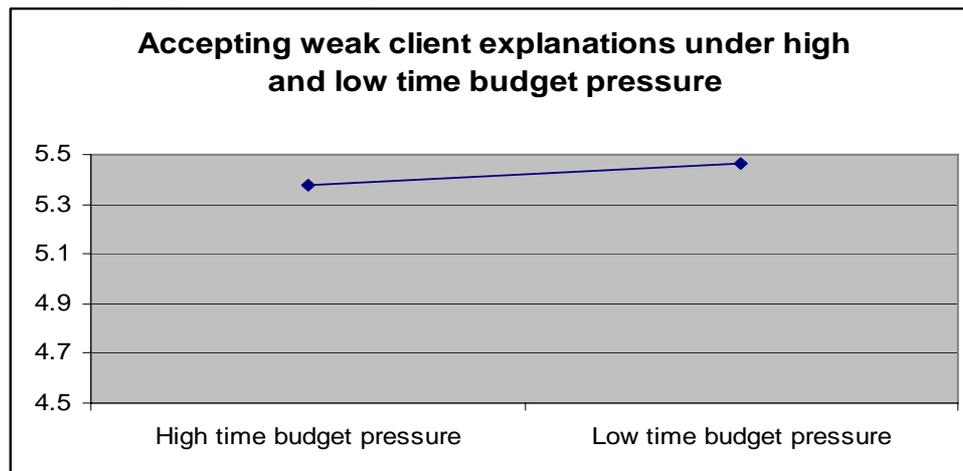


To determine whether this difference is significant, a categorical regression was undertaken. The results of this regression show that the level of time budget pressure has the hypothesised positive impact on the likelihood of auditors engaging in premature signoff (Beta = +0.182) which is significant at the 5% level ($F = 4.788$, $p = 0.03$)²⁹. Based on the results of this regression, H_1 cannot be rejected.

The second hypothesis that was tested involved the likelihood of auditors engaging in the RAQP of accepting weak client explanations. From Figure 3, it seems that little difference exists between the mean scores for auditors accepting weak client explanations under high and low time budget pressure.

²⁹ For full results of the testing of the hypotheses and additional analysis see Appendix M.

Figure 3 – Comparison of means under high and low time budget pressure for the RAQP of accepting weak client explanations



The results of the categorical regression confirmed this result. The relationship was found to be insignificant ($F = 0.01$, $p = 0.920$), meaning that time budget pressure has no effect on the likelihood that auditors will engage in the RAQP of accepting a weak client explanation. Consequently, hypothesis two can be rejected.

5.1.2 – Personality type

To test the third hypothesis, the interaction effect between the level of time budget pressure and the personality type of the participants was determined through a Univariate Analysis of Variance. The results showed that personality type is not a significant moderator ($F = 0.213$, $p = 0.645$) of the relationship between time budget pressure and the likelihood of auditors engaging in the RAQP of premature signoff. Therefore the third hypothesis, which was stated in null form, cannot be rejected.

When testing the fourth hypothesis, the results showed that, as for the RAQP of premature signoff, personality type is not a significant moderator ($F = 0.441$, $P = 0.508$) of the relationship between time budget pressure and likelihood of auditors engaging in the RAQP of accepting weak client explanations. Therefore hypothesis four, which is stated in null form, can also not be rejected.

5.2 – Additional testing

5.2.1 – Personality type as an independent variable

These results show that personality type does not statistically moderate the relationship between time budget pressure and the likelihood of auditors engaging in RAQPs as hypothesised. Therefore, further testing was undertaken to determine whether personality type would have a significant effect as an *independent* variable affecting RAQPs. A categorical regression was undertaken to determine if such a relationship existed. Both time budget pressure and personality type were entered into the model as independent variables as the predicted moderator effect did not hold. The results are shown in table 3 below:

Table 3 – Analysis of personality type as an independent variable using categorical regression

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error			
Premature signoff:					
Time budget pressure level	.182	.083	1	4.788	.030
Personality type	.267	.083	1	10.316	.002
Accepting weak client explanations:					
Time budget pressure level	.008	.084	1	.010	.920
Personality type	.172	.084	1	4.172	.043

As shown above, when entered into the regression as an independent variable with time budget pressure, personality type is significant in explaining the likelihood for auditors to engage in both of the RAQPs tested. Although (as shown in Appendix M) the overall model³⁰ is not significant for the RAQP of accepting weak client explanations ($p= 0.109$), when the regression was re-run with just personality type as the independent variable it was found that this variable is significant on its own as an explanatory variable ($p= 0.005$ for premature signoff; $p=0.035$ for accepting weak client explanations).

Although this finding was not hypothesised, the implications of this must be considered for both theory development and future research on this topic. Another interesting finding is that, due to the positive beta coefficient, these results indicate

³⁰ I.e. with personality type and time budget pressure both as explanatory variables.

that it is those participants displaying Type B characteristics that are more likely to engage in these two RAQPs rather than those displaying Type A characteristics³¹. This is demonstrated in figures 4 and 5:

Figure 4 – Comparison of means for each personality type for the RAQP of premature signoff

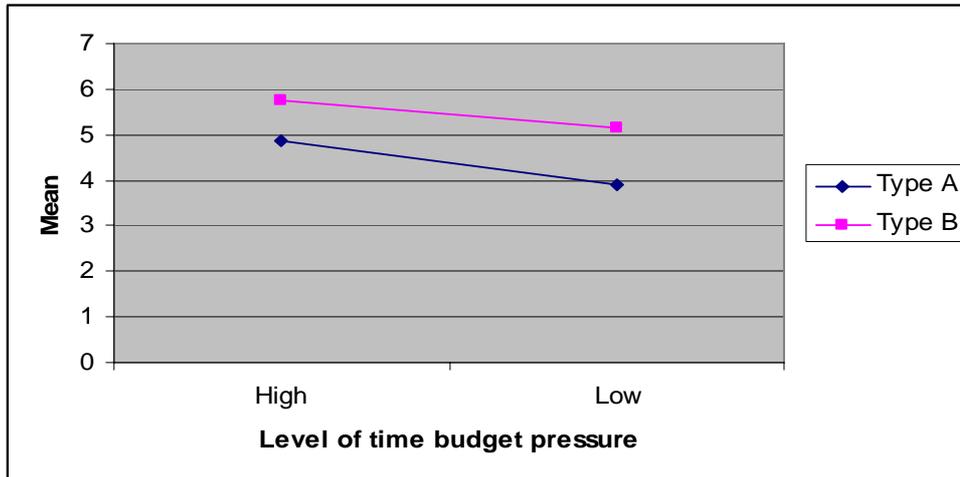
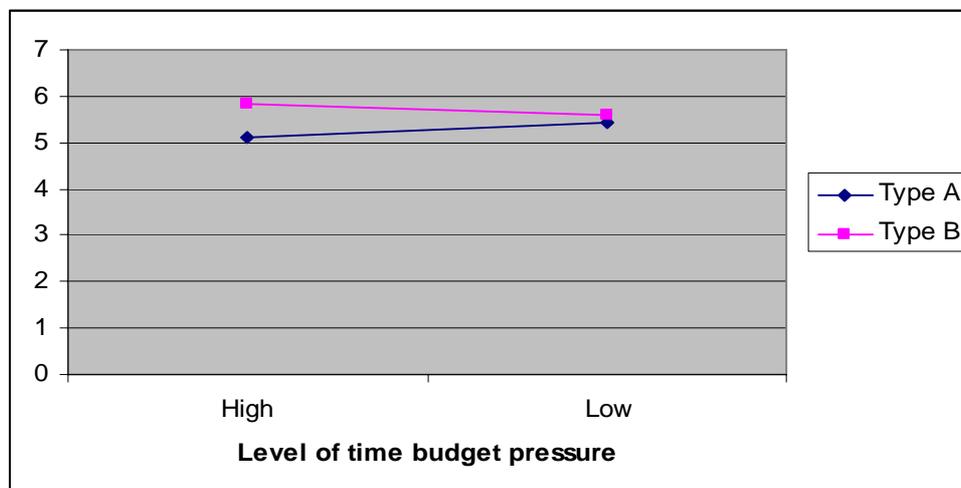


Figure 5 – Comparison of means for each personality type for the RAQP of accepting weak client explanations



Similar to the findings for hypotheses one and three regarding time budget pressure as an independent variable, the graphs shows that the expected positive relationship between time budget pressure and RAQPs is apparent for both Type A and Type B

³¹ This is because Type A's were arbitrarily coded as 1 in the regression, and Type B's as 2. As Type B's were coded the higher value and a positive beta was obtained, this implies that Type B's have the higher likelihood to engage in RAQPs.

individuals for the RAQP of premature signoff, but only for Type B individuals regarding the RAQP of accepting weak client explanations.

5.2.2 – Analysis by position

Finally, additional analysis was conducted to compare the responses of the participants who were in the lower levels of their organisation with those in the higher levels of organisations, as prior studies have shown that audit juniors and seniors are more susceptible to these types of practices³². The responses from participants classifying themselves as audit juniors or seniors were compared with the responses from participants classifying themselves as audit managers or partners. Using a non-parametric Mann-Whitney U test, the following results were obtained:

Table 4 – Comparison of audit juniors and seniors vs. audit managers and partners under high time budget pressure

	Premature signoff	Weak client explanations
Mann-Whitney U	469.000	339.500
Wilcoxon W	820.000	690.500
Z	-.857	-2.532
Asymp. Sig. (2-tailed)	.392	.011

Table 5 – Comparison of audit juniors and seniors vs. audit managers and partners under low time budget pressure

	Premature signoff	Weak client explanations
Mann-Whitney U	378.500	428.000
Wilcoxon W	1158.500	753.000
Z	-1.315	-.985
Asymp. Sig. (2-tailed)	.188	.325

Tables 4 and 5 show us that a significant difference exists between the responses of those in lower levels of an organisation (juniors and seniors) and those in the higher levels (managers and partners) only for the RAQP of accepting weak client explanations, under high levels of time budget pressure ($p = 0.011, < 0.05$). The direction of the 'Z' values implies that auditors with lower experience levels are more likely to accept weak client explanations than those with higher levels of experience. The implications of this will be discussed in the next chapter.

³² E.g. Raghunathan, 1991; Otley & Pierce, 1996.

5.3 – Summary of chapter

In this chapter, an overview of the results of the hypothesis testing was given. It was shown that the hypothesis that auditors would be more likely to engage in RAQPs when under high time budget pressure was found to be true for the RAQP of premature signoff, but not for the RAQP of accepting weak client explanations. It was also found that the interaction effect between time budget pressure and personality type was not significant. Additional analysis revealed that personality type is significant as an independent variable explaining the likelihood of auditors engaging in RAQPs. A discussion of these results will be provided next.

Chapter 6:

Discussion

The final chapter discusses the issues raised from the results found in chapter five, along with implications these results have for the auditing profession. The limitations of the study are identified, along with directions for future research. Finally, a summary of this dissertation and its overall findings are given.

6.1 – Discussion

6.1.1 – Results from statistical analysis

The results found in chapter five raise a number of issues and implications that warrant further discussion. Firstly, it was shown that auditors are more likely to prematurely signoff an audit step under high time budget pressure than low time budget pressure, but the likelihood that auditors accept weak client explanations when conducting an audit step does not seem to be affected by the level of time budget pressure they experience.

A number of possible explanations for this exist. Firstly, prematurely signing off an audit step may be considered to be a more serious RAQP to engage in than accepting a weak client explanation. Therefore, auditors may only engage in this behaviour when they are under higher levels of time budget pressure, yet they may accept weak client explanations regardless of the level of time budget pressure. Pierce & Sweeney (2004b) suggest that premature signoff is the most serious of all RAQPs currently identified in the literature. Consistent with this, McNair (1987) found that auditing partners generally believe that a false sign-off of an audit procedure should carry a penalty of instant dismissal of the auditor in question.

An additional explanation for this finding could be that engaging in the RAQP of accepting a weak client explanation is affected by variables other than time budget pressure which are not investigated in this study. Specifically, it seems logical that the *tenure* the auditor has had with the client may affect whether they accept weak client explanations or not. Auditors who have worked on a particular audit for a number of years will gain experience regarding when client explanations can and cannot be accepted, and also which clients can and cannot be relied upon to give reliable explanations. Although this variable was controlled to a certain extent in the scenario as the number of years the participant had audited the current client was stated, no information was given regarding how reliable the client had been in the past. Participants may have therefore interpreted this differently, which may have affected their responses. Further research is warranted on these issues, and this will be discussed further in section 6.3.

The second finding from the hypothesis testing was that the personality type of an auditor *directly* affects the likelihood that auditors will engage in RAQPs, rather than interacting with time budget pressure to affect RAQPs as predicted. The role of personality type in this relationship was originally hypothesised as a moderator because, as pressure levels increased, it was argued that certain individuals would be more susceptible to becoming stressed and acting dysfunctionally. However, it appears that the *level* of stress (i.e. time budget pressure) apparent in the audit environment does not interact with personality type.

In addition, the results indicated that it was Type B individuals who showed a higher likelihood of engaging in RAQPs under time budget pressure³³. One argument regarding the Type A behaviour pattern is that these individuals are more susceptible to stress, but it does not appear that these stress levels are translated into dysfunctional behaviours, as one may have assumed. Therefore, it must be asked, what exactly is driving these results?

A major issue that has been identified in the literature analysing Type A and Type B personalities is that some authors argue that the TABP is multi-dimensional, in that it is made up of different, underlying constructs such as ‘hard-driving’, ‘extroverted’, ‘competitive’ and ‘impatience’³⁴. Vickers (1981) argues that Type A constructs need to be studied separately as they sometimes have opposing effects. For example, it is argued that the ‘hard-driving’ construct of the TABP means that Type A individuals want to achieve their goals at all odds, which may have overridden other elements of the TABP that suggest Type A individuals react negatively under stress. This ‘hard-driving’ construct can be compared to the finding by Malone & Roberts (1996) that an auditor’s need for approval is inversely related to their likelihood of engaging in RAQPs. This notion of constructs is an important implication that must be considered for future research in this area. In addition, as behavioural research tends to focus on the characteristics of people displaying Type A personalities, more needs to be learned about the constructs underlying Type B personalities which may cause them to react dysfunctionally when under pressure in an audit environment.

³³ As demonstrated in Figures 4 and 5 in Chapter 5.

³⁴ See Glass (1977), Begley & Boyd (1985) and Yarnold & Bryant (1994) for arguments regarding which constructs are apparent in the TABP.

In addition to this, the finding that those in lower levels of an audit firm are more likely to engage in RAQPs was consistent with prior research. However, similar to the hypothesis testing, this was only found to be significantly true for one of the RAQPs investigated (accepting weak client explanations) and only under high time budget pressure. This finding may be due to the low sample size ($n < 50$ in all cases) or the fact that audit juniors and seniors are more aware of the seriousness of prematurely signing off an audit step than they are of accepting weak client explanations. Whatever the reason, this is still an important consideration, as many managers and partners surveyed indicated that they would expect juniors and seniors to come to them in the kind of situations posed by the scenario³⁵, but the results to this study show that this may not always be happening.

6.1.2 – Implications for the auditing profession

This discussion provides a number of implications for the auditing profession. While it is positive that a low number of auditors indicated they would actually engage in RAQPs³⁶, the fact that this would occur at all is still a problem. The results therefore suggest that auditing firms still need to seriously consider the threat RAQPs pose on audit quality, and the variables that drive their occurrence. With respect to time budget pressure, the current competitive audit environment seems to present situations that may intensify the threat of these practices (Otley & Pierce, 1996). Of the respondents to this questionnaire, 41% indicated that time budgets at their organisation are attainable with more than ‘a considerable amount of effort’³⁷, which shows that the auditors surveyed also believe that time budget pressure is currently high. Therefore, audit firms must minimise the detrimental effects that time budget pressure can produce. This could be done by de-emphasising time budget attainment in performance evaluations, standardising policies on how audit firms deal with auditors who engage in RAQPs, or having a second audit partner review the time budget for reasonableness (Kelley & Margheim, 1990, p40).

³⁵ This was indicated in the ‘comments’ section of the questionnaire.

³⁶ As shown by analysing the frequencies of which respondents circled a 4 or a 5 when asked about RAQPs (see Appendix N).

³⁷ This means that 41% of respondents circled a 5, 6 or 7 on the scale provided to answer question 3 in section 3 of the questionnaire. See Appendix O.

In addition, this study provides initial findings that certain types of people may be more likely to engage in RAQPs and this is an issue that management at auditing firms must be aware of. This is important because personality type is not something audit firms can control, unlike time budget pressure. As this theory develops, auditing firms should be able to design and implement appropriate training and development programs to minimise the effect of these behaviours and also identify attributes that enable employees to deliver higher quality work when under pressure.

6.1.3 – Conclusions

From this discussion, a number of conclusions can be drawn. Firstly, it is apparent that the audit environment is a lot more complex than empirical studies suggest, which means that variables such as time budget pressure cannot be considered in isolation, which researchers often try to do. Secondly, more research is needed to determine which RAQPs are the biggest threat to the quality of an audit, so that practitioners can take steps to minimise their occurrences. Finally, the results from this study indicate that certain auditors may be more likely to engage in RAQPs than others, which has implications for audit firms' recruitment processes and training programmes.

6.2 – Limitations

The major limitation of this study is that the research instrument that was used has not been used before in its entirety, so the validity of the findings may be questioned. However, as discussed in chapter four, steps were taken to maximise the reality of the scenarios as this was the biggest issue regarding the validity of the instrument. In addition, reliability checks showed that the scenarios were answered consistently by participants, which means that each of the scenarios which formed the basis of the RAQP measurement were considered to be of equal importance by the participants. Furthermore, as mentioned in the previous section, the measure of personality used may not have been appropriate as a number of underlying constructs may have been tapped into and this is also a limitation of this study.

Another potential limitation of this research instrument is that it was scenario-based, whereas the majority of past studies have asked auditors directly about their RAQPs. This may compromise the comparability of the results to prior studies to some extent, but is also beneficial as the context that these RAQPs take place in were able to be controlled for. However, a number of respondents noted that they would have preferred to be informed of materiality levels (e.g. dollar values) which should be noted for future research.

Another way in which the comparability of this study with prior studies may be limited is that fact that only two levels of time budget pressure were investigated. An issue in this branch of research is whether the relationship between time budget pressure and RAQPs is in fact linear, or whether an ‘inverted-U’ shaped relationship exists. Kelley & Margheim (1990) found that greater levels of time budget pressure result in greater instances of RAQPs until a point where the time budget is perceived to be impossible to achieve, and then the number of RAQPs decreases, while Otley & Pierce (1996) show a linear relationship to be in existence. This study could not add to this debate which is a limitation.

Finally, the topic of RAQPs is of a sensitive nature, and previous researchers have come across an unwillingness to talk about the topic and the same was true in this case. One audit partner that was contacted about the possibility of distributing questionnaires in their organisation refused participation on the basis that they do not believe these types of practices take place in their firm. Because of this, an element of non-response bias is likely to be apparent in this study. Testing for non-response bias was undertaken, with late respondents used as a proxy for non-respondents, but as a reasonably short time-period was given to complete questionnaires (two weeks) this may have been a poor proxy.

6.3 – Directions for future research

The results of this dissertation have identified many areas where future research on this topic can be undertaken. Firstly, this study has re-emphasised the fact that RAQPs need to be considered separately. It seems that premature signoff is considered to be a more serious RAQP to engage in than accepting weak client explanations, and it needs to be determined whether the same is true for other RAQPs, which were mentioned in section 2.2. If accepting weak client explanations is a generally accepted practice for auditors, the implications of this need to be determined - is this acceptable as auditors are relying on their past relationship with the client in making this judgement, or do less experienced auditors not realise the consequences this may have on the quality of the audit? Although this study and others have shown that the actual number of RAQPs that are engaged in by auditors is low, the fact that they occur at all still warrants further research to enable practitioners to identify which RAQPs are of the most threat to the quality of the audits they carry out.

Furthermore, these results also re-emphasise the fact that time budget pressure is only one variable that explains RAQPs. This was demonstrated firstly by the fact that personality type was found to be a significant *independent* explanatory variable of RAQPs. The consequences of this is that many variables affect the likelihood that auditors engage in RAQPs, and as personality type is not something an audit firm can manage, apart from through its recruitment processes, this may be an even more serious variable to consider, which warrants further research on this matter. The importance of considering other variables was also demonstrated through the possibility that participants may have interpreted how reliable the client was differently when deciding whether they would accept a weak client explanation, which may have affected the results. It is important in future research that all possible extraneous variables are identified and controlled for in scenario-based research.

Finally, as discussed in section 6.1.1, the fact that the TABP displays a number of different constructs that can have conflicting effects on people's decision-making processes means that this measure of personality may have to be refined. Furthermore, as these results indicated that Type B individuals are more likely to engage in RAQPs, a better understanding of the constructs apparent in the Type B behaviour pattern is

necessary, to understand what is driving this result. As the auditing profession may attract certain types of personalities, a measure of personality that categorises people by comparing their scores to the median (as used in this study) may not be appropriate for further research in the audit environment. Further research on this topic will better enable auditing firms to identify which employees will perform best in their organisation under pressure situations.

6.4 - Summary

The purpose of this dissertation was to contribute to the growing body of literature investigating the effect of time budget pressure on the likelihood of auditors engaging in RAQPs and also to extend this literature with the introduction of personality type as a moderating variable to this relationship. Results showed that, under high levels of time budget pressure, auditors are more likely to engage in the RAQP of prematurely signing off an audit step, but are equally as likely under high and low levels of time budget pressure to engage in the RAQP of accepting weak client explanations. Personality type was found to be a significant predictor of RAQPs as an independent variable rather than a moderator. Possible explanations for these results were discussed in this chapter along with implications for the auditing profession, limitations of the study and directions for future research.

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Appendices

Appendix A: Section one of questionnaire (high time budget pressure version)

Section 1: The audit of GTL Ltd

Assume that you are a member of an audit team working on the audit of a public manufacturing client, GTL Ltd. GTL Ltd has been a client of your firm for five years, and your firm has been retained as the continuing auditor for the current financial year. Last year's audit resulted in an unqualified audit opinion, as has been the case each year your firm has audited this client.

Time budget

The audit fee for GTL Ltd has been increasing slightly every year during the five years your firm has audited them. This is due to inflation and increasing market rates for audit services. However, this year, your client has contacted the partner in charge of the audit to re-negotiate the fees on the basis that your firm should now be more efficient in performing the audit, due to the long involvement your firm has had in auditing this client. After the negotiations, the partner in charge has re-examined the audit fee and has subsequently decided to reduce the audit fees and the hours allocated to the audit. The specific effect of this time-budget revision on the inventory section of the audit is that time will be cut by about 20%.

Inventory audit of GTL Ltd

This is your first time working on the audit of GTL Ltd. You have been asked to perform substantive testing for the inventory audit. From last year's audit file, it can be seen that a small number of very minor errors occurred. Similar to last year, the inherent and control risk has subsequently been assessed to be medium. Your job in the inventory audit is to select a random sample of 30 purchases from the purchases journal and agree them to supporting documents.

Your task:

Please read the following independent scenarios and indicate your responses to each scenario by circling a number on the scale provided.

Scenario 1:

While testing the transactions you find one purchase that does not have a receiving report. The purchases clerk tells you this is a regular purchase and they usually don't bother filling in a receiving report. The only way to corroborate this is to contact the supplier and get a copy of the purchase transaction faxed through.

You are meeting the manager in charge of the audit at 5pm to finalise this inventory section of the audit. Assume it is nearing 5pm and you have reached the end of your time budget for this section of the audit. For this transaction to be verified, you would have to ask the manager for more time. You know that the manager has denied extensions of time in other areas of the audit due to the tightness of the time budget.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) *Ask the manager in charge of the audit for extra time?*

1 2 3 4 5

Highly unlikely

Highly likely

b) *Accept the purchase clerk's explanation and perform no further work on the transaction?*

1 2 3 4 5

Highly unlikely

Highly likely

Scenario 2

From the sample of 30 purchase transactions selected to match to supporting documents, you have tested all but 5. In all the 25 transactions tested so far no errors have been found.

You are meeting the manager in charge of the audit at 5pm to finalise this inventory section of the audit. Assume it is nearing 5pm and you have reached the end of your time budget for this section of the audit. For this transaction to be verified, you would have to ask the manager for more time. You know that the manager has denied extensions of time in other areas of the audit due to the tightness of the time budget.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) *Ask the manager in charge of the audit for extra time?*

1 2 3 4 5

Highly unlikely

Highly likely

b) *Signoff the testing as fully completed at 5pm without testing the remaining 5 transactions?*

1 2 3 4 5

Highly unlikely

Highly likely

Please turn over

Scenario 3:

When testing a transaction, you find that some supporting documentation is missing. When you approach management about this problem you are told the documents have been misplaced but they can vouch for the fact that the documents have been correctly recorded. To verify this you would have to contact an overseas supplier.

You are meeting the manager in charge of the audit at 5pm to finalise this inventory section of the audit. Assume it is nearing 5pm and you have reached the end of your time budget for this section of the audit. For this transaction to be verified, you would have to ask the manager for more time. You know that the manager has denied extensions of time in other areas of the audit due to the tightness of the time budget.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Accept the client's explanation and not investigate the matter further?

1	2	3	4	5
Highly unlikely				Highly likely

Scenario 4:

One of the transactions to be tested requires a confirmation to be faxed through from an overseas supplier to agree all the supporting documentation. However, due to time differences, you will have to wait till tomorrow for the confirmation to be faxed through.

You are meeting the manager in charge of the audit at 5pm to finalise this inventory section of the audit. Assume it is nearing 5pm and you have reached the end of your time budget for this section of the audit. For this transaction to be verified, you would have to ask the manager for more time. You know that the manager has denied extensions of time in other areas of the audit due to the tightness of the time budget.

If this is the only issue you come across in the inventory testing, what is the likelihood you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Signoff the testing as fully completed without waiting for confirmation from overseas for this particular transaction?

1	2	3	4	5
Highly unlikely				Highly likely

Please turn over

Scenario 5:

When testing the purchases you find an unusually large transaction and question the manager of the particular division about it. The manager tells you that they were offered a one-off discount to buy materials, so purchased a large order in bulk. The only way of verifying this is to go to the firm's warehouse and physically view the stock as supporting documentation is inadequate. This would involve travelling as the warehouse is located in another part of the city.

You are meeting the manager in charge of the audit at 5pm to finalise this inventory section of the audit. Assume it is nearing 5pm and you have reached the end of your time budget for this section of the audit. For this transaction to be verified, you would have to ask the manager for more time. You know that the manager has denied extensions of time in other areas of the audit due to the tightness of the time budget.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Accept the divisional manager's explanation and not go to the firm's warehouse to view the stock?

1	2	3	4	5
Highly unlikely				Highly likely

Scenario 6:

The supporting documentation for one of the transactions to be tested is written in a foreign language and requires translation. The earliest time that this could be done for you would be tomorrow afternoon.

You are meeting the manager in charge of the audit at 5pm to finalise this inventory section of the audit. Assume it is nearing 5pm and you have reached the end of your time budget for this section of the audit. For this transaction to be verified, you would have to ask the manager for more time. You know that the manager has denied extensions of time in other areas of the audit due to the tightness of the time budget.

If this is the only issue you come across in the inventory testing, what is the likelihood you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Signoff the testing as fully completed without waiting for the supporting documentation to be translated?

1	2	3	4	5
Highly unlikely				Highly likely

Appendix B: Section one of questionnaire (low time budget pressure version)

(Differences to high time budget pressure version are underlined).

Section 1: The audit of GTL Ltd

Assume that you are a member of an audit team working on the audit of a public manufacturing client, GTL Ltd. GTL Ltd has been a client of your firm for five years, and your firm has been retained as the continuing auditor for the current financial year. Last year's audit resulted in an unqualified audit opinion, as has been the case each year your firm has audited this client.

Time budget

The audit fee for GTL Ltd has been increasing slightly every year during the five years your firm has audited them. This is due to inflation and increasing market rates for audit services. The partner in charge of the audit has allocated the same amount of hours to the audit that were allocated last year. In previous years, the time budget has been reasonable for the amount of work involved, and the same is expected this year.

Inventory audit of GTL Ltd

This is your first time working on the audit of GTL Ltd. You have been asked to perform substantive testing for the inventory audit. From last year's audit file, it can be seen that a small number of very minor errors occurred. Similar to last year, the inherent and control risk has subsequently been assessed to be medium. Your job in the inventory audit is to select a random sample of 30 purchases from the purchases journal and agree them to supporting documents.

Your task:

Please read the following independent scenarios and indicate your responses to each scenario by circling a number on the scale provided.

Scenario 1:

While testing the transactions you find one purchase that does not have a receiving report. The purchases clerk tells you this is a regular purchase and they usually don't bother filling in a receiving report. The only way to corroborate this is to contact the supplier and get a copy of the purchase transaction faxed through.

You are meeting the manager in charge of the audit at 5pm to discuss this inventory section of the audit. Assume it is nearing 5pm and you are nearing the end of your time budget for this section of the audit. For this transaction to be verified, you may have to ask the manager for extra time. You know that the manager has granted extensions of time in other areas of the audit as the time budget is relatively flexible.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) Ask the manager in charge of the audit for extra time?

1 2 3 4 5

Highly unlikely

Highly likely

b) Accept the purchase clerk's explanation and perform no further work on the transaction?

1 2 3 4 5

Highly unlikely

Highly likely

Scenario 2

From the sample of 30 purchase transactions selected to match to supporting documents, you have tested all but 5. In all the 25 transactions tested so far no errors have been found.

You are meeting the manager in charge of the audit at 5pm to discuss this inventory section of the audit. Assume it is nearing 5pm and you are nearing the end of your time budget for this section of the audit. For this transaction to be verified, you may have to ask the manager for extra time. You know that the manager has granted extensions of time in other areas of the audit as the time budget is relatively flexible.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) Ask the manager in charge of the audit for extra time?

1 2 3 4 5

Highly unlikely

Highly likely

b) Signoff the testing as fully completed at 5pm without testing the remaining 5 transactions?

1 2 3 4 5

Highly unlikely

Highly likely

Please turn over

Scenario 3:

When testing a transaction, you find that some supporting documentation is missing. When you approach management about this problem you are told the documents have been misplaced but they can vouch for the fact that the documents have been correctly recorded. To verify this you would have to contact an overseas supplier.

You are meeting the manager in charge of the audit at 5pm to discuss this inventory section of the audit. Assume it is nearing 5pm and you are nearing the end of your time budget for this section of the audit. For this transaction to be verified, you may have to ask the manager for extra time. You know that the manager has granted extensions of time in other areas of the audit as the time budget is relatively flexible.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Accept the client's explanation and not investigate the matter further?

1	2	3	4	5
Highly unlikely				Highly likely

Scenario 4:

One of the transactions to be tested requires a confirmation to be faxed through from an overseas supplier to agree all the supporting documentation. However, due to time differences, you will have to wait till tomorrow for the confirmation to be faxed through.

You are meeting the manager in charge of the audit at 5pm to discuss this inventory section of the audit. Assume it is nearing 5pm and you are nearing the end of your time budget for this section of the audit. For this transaction to be verified, you may have to ask the manager for extra time. You know that the manager has granted extensions of time in other areas of the audit as the time budget is relatively flexible.

If this is the only issue you come across in the inventory testing, what is the likelihood you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Signoff the testing as fully completed without waiting for confirmation from overseas for this particular transaction?

1	2	3	4	5
Highly unlikely				Highly likely

Please turn over

Scenario 5:

When testing the purchases you find an unusually large transaction and question the manager of the particular division about it. The manager tells you that they were offered a one-off discount to buy materials, so purchased a large order in bulk. The only way of verifying this is to go to the firm's warehouse and physically view the stock as supporting documentation is inadequate. This would involve travelling as the warehouse is located in another part of the city.

You are meeting the manager in charge of the audit at 5pm to discuss this inventory section of the audit. Assume it is nearing 5pm and you are nearing the end of your time budget for this section of the audit. For this transaction to be verified, you may have to ask the manager for extra time. You know that the manager has granted extensions of time in other areas of the audit as the time budget is relatively flexible.

If this is the only issue you come across in the inventory testing, what is the likelihood that you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Accept the divisional manager's explanation and not go to the firm's warehouse to view the stock?

1	2	3	4	5
Highly unlikely				Highly likely

Scenario 6:

The supporting documentation for one of the transactions to be tested is written in a foreign language and requires translation. The earliest time that this could be done for you would be tomorrow afternoon.

You are meeting the manager in charge of the audit at 5pm to discuss this inventory section of the audit. Assume it is nearing 5pm and you are nearing the end of your time budget for this section of the audit. For this transaction to be verified, you may have to ask the manager for extra time. You know that the manager has granted extensions of time in other areas of the audit as the time budget is relatively flexible.

If this is the only issue you come across in the inventory testing, what is the likelihood you would:

a) Ask the manager in charge of the audit for extra time?

1	2	3	4	5
Highly unlikely				Highly likely

b) Signoff the testing as fully completed without waiting for the supporting documentation to be translated?

1	2	3	4	5
Highly unlikely				Highly likely

Appendix C: Section two of questionnaire: Blumenthal's Type A Self-Rating Inventory Scale

Section 2: Personal Information

In this section, we are interested in learning about you. Please read the instructions below:

Instructions:

You will be shown a number of adjectives. You are asked to use these words to describe yourself by indicating, on a scale of 1 to 7, how true of you these various characteristics are. Please give your own opinion of yourself. If you are not sure, put down the number that comes closest to what you think best describes you. Do not leave any blank spaces. Use the following scale:

1	2	3	4	5	6	7
NEVER OR ALMOST NEVER TRUE	USUALLY NOT TRUE	SOMETIMES BUT INFREQUENTLY TRUE	OCCASION- ALLY TRUE	OFTEN TRUE	USUALLY TRUE	ALWAYS OR ALMOST ALWAYS TRUE

Example: if you feel it is 'usually true' that you are 'tactful', you would rate this characteristic as follows:

Tactful	6
---------	---

Please fill in the following boxes with the number from the scale above that best describes how true of you each characteristic is:

1. Energetic	
2. Idealistic	
3. Quiet	
4. Outspoken	
5. Self-confident	
6. Cooperative	
7. Peaceful	
8. Aggressive	
9. Quick	
10. Helpful	
11. Calm	
12. Forceful	
13. Enterprising	

14. Unrealistic	
15. Relaxed	
16. Headstrong	
17. Tense	
18. Unstable	
19. Enthusiastic	
20. Irritable	
21. Informal	
22. Ambitious	
23. Dominant	
24. Assertive	
25. Sly	
26. Argumentative	

27. Excitable	
28. Snobbish	
29. Mild	
30. Loud	
31. Individualistic	
32. Stingy	
33. Easy-going	
34. Talkative	
35. Outgoing	
36. Original	
37. Cautious	
38. Strong	

Appendix D: Section 3 of questionnaire: Demographics

Your organisation

In this section we are interested in determining certain characteristics of your organisation. Please indicate your answers to the following questions by ticking the appropriate boxes and circling the appropriate numbers:

1. How many years of audit experience do you have?

____ years

2. What position do you hold at your current organisation?

Audit Junior Audit Senior/Supervisor Audit Manager
 Audit Partner Other _____

3. In your experience, how attainable are the time budgets at your organisation?

1	2	3	4	5	6	7
Easily attainable		Attainable with a considerable amount of effort				Impossible to achieve

4. With respect to the scenarios given in this survey, how attainable did you consider the time budgets to be overall?

1	2	3	4	5	6	7
Easily attainable		Attainable with a considerable amount of effort				Impossible to achieve

5. What level of importance is placed on meeting time budgets in your organisation?

1	2	3	4	5	6	7
Low level			Medium level			High level

If you have any comments regarding the answers you gave or this survey in general, please provide these below:

Thank you for completing this survey. Please return this survey in the envelope provided. If you are interested in obtaining the results or have any questions, please contact me at gunle489@student.otago.ac.nz.

Appendix E: Scoring Blumenthal's Type A Self-Rating Inventory Scale

Scoring key:

Type A items:

1, 4, 5, 8, 9, 12, 13, 16, 17, 19, 20, 22, 23, 24, 26, 27, 30, 31, 34, 35, 38.

Type B items:

3, 7, 11, 15, 29, 33, 37.

Type B items must be converted by subtracting each response from 8, i.e. $7 = 1$, $6 = 2$ etc. The total Type A score is obtained by adding the 21 Type A items to the 7 transformed Type B items. Type A individuals are then classified as being those with a Type A score above the median, and Type B individuals as those with a Type A score below the median.

Appendix F: Letter requesting sample from NZICA

25 July 2006

Alistair Brook
New Zealand Institute of Chartered Accountants
Level 2 Cigna House
40 Mercer St
WELLINGTON

Dear Mr Brook,

My name is Leanne Gundry and I am an accounting honours student at the University of Otago. As part of my research for my dissertation, I am hoping to survey people in the auditing profession, and am writing to request a randomly selected sample of names and addresses that I could send surveys out to. It is important that the identities of the participants remain confidential with respect to their various employers. I believe that the results of my research will be beneficial to the auditing and accounting professions in several ways:

- Helping auditors to identify circumstances where the quality of an audit may be compromised and enable them to act accordingly to minimise this behaviour.
- Enabling employers to identify the attributes they are looking for in their recruitment process and to design and implement appropriate training and development programs for their employees.

Specifically, the purpose of my research is to determine the effect that time budget pressure has on the quality of the work carried out in an audit. In addition to this, I wish to investigate whether certain individuals are more susceptible to dysfunctional behaviour while under time budget pressure in an audit environment than others (e.g. those displaying 'Type A' personality characteristics compared with those displaying 'Type B' personality characteristics). I believe this is a highly relevant, timely and important topic for the auditing profession, due to the competitiveness of the audit environment and the increasing demand for people with 'Type A' personality characteristics in professions such as auditing.

Ethical issues

The participants' anonymity in this survey will be assured. To emphasise the voluntary nature of this survey, the participants will also be assured that they are free to withdraw from the study at any time. In addition, participants will be given the option to see the results of the study and requesting the results by e-mail will aid in maintaining the anonymity of the participants.

Requested sample

To undertake this research, I would need a random sample of the names, e-mail and postal addresses of 200 audit juniors and 200 audit seniors from the NZICA database. These will be classified as follows:

- Audit juniors = provisional members of NZICA working in audit. A sample of 200 will be required.
- Audit seniors = members who have been qualified for three years or less but who have not reached management level, and are working in audit. A sample of 200 will be required.
- Total sample required = 400.

A copy of the survey to be sent is attached to this letter. I thank you very much for your assistance in conducting my research and look forward to your reply. My contact details are provided below, and please contact me if any clarification or further information is required.

Yours sincerely

Leanne Gundry

c/o Department of Accountancy and Business Law
University of Otago
PO Box 56
Dunedin
gunle489@student.otago.ac.nz

Appendix G: Comparison of responses to postal and web-based questionnaires*

Comparison of web and postal respondents to the high time budget pressure version:

		N	Mean Rank	Sum of Ranks
Premature signoff	High time budget pressure (web)	24	20.27	486.50
	High time budget pressure (postal)	17	22.03	374.50
	Total	41		
Accepting weak client explanations	High time budget pressure (web)	24	19.15	459.50
	High time budget pressure (postal)	17	23.62	401.50
	Total	41		

	Premature signoff	Accepting weak client explanations
Mann-Whitney U	186.500	159.500
Wilcoxon W	486.500	459.500
Z	-.477	-1.195
Asymp. Sig. (2-tailed)	.633	.232

Comparison of web and postal respondents to the low time budget pressure version:

		N	Mean Rank	Sum of Ranks
Premature signoff	Low time budget pressure (web)	24	25.58	614.00
	Low time budget pressure (postal)	21	20.05	421.00
	Total	45		
WCE	Low time budget pressure (web)	24	22.35	536.50
	Low time budget pressure (postal)	21	23.74	498.50
	Total	45		

	Premature signoff	Accepting weak client explanations
Mann-Whitney U	190.000	236.500
Wilcoxon W	421.000	536.500
Z	-1.520	-.359
Asymp. Sig. (2-tailed)	.129	.719

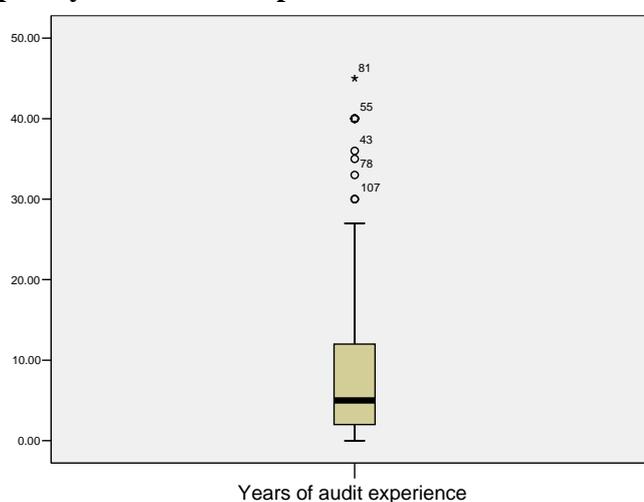
* For the purposes of this analysis, the postal responses were compared to the audit juniors and seniors who responded to the web-based questionnaire. This is so a fair comparison could be made, as only audit juniors and seniors responded to the postal questionnaires.

Appendix H: Demographics

Analysis of positions of respondents:

Position	Count	%
Audit Junior	42	27.5%
Audit Senior/Supervisor	39	25.5%
Audit Manager	37	24.2%
Audit Partner	14	9.2%
Internal Auditor	6	3.9%
Consultant	6	3.9%
Other ³⁸	9	6.2%

Stem and leaf graph of years of audit experience:



Descriptive statistics of years of audit experience:

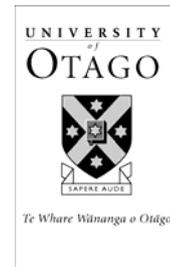
Years of audit experience	Mean		9.0535	.82511
	95% Confidence Interval for Mean	Lower Bound	7.4236	
		Upper Bound	10.6835	
	5% Trimmed Mean		7.8357	
	Median		5.0000	
	Variance		105.525	
	Std. Deviation		10.27251	
	Minimum		.00	
	Maximum		45.00	
	Range		45.00	
	Interquartile Range		10.00	
	Skewness		1.680	.195
	Kurtosis		2.238	.387

³⁸ The 'other' category includes one CEO, director, audit executive, audit investigator, audit intermediate, sole practitioner and retired person and two general accountants. A number of people also did not answer this question.

Appendix I: Cover letter for postal questionnaire

<Date>

Dear Participant



My name is Leanne Gundry and I am conducting a survey as part of an honours dissertation at the University of Otago. I am interested in learning more about auditor behaviour in a modern audit environment. Although this survey was distributed by someone in your organisation the survey is independent of your employer and they will not see the questions you are being asked or the answers you give. This survey has been given ethical clearance from the Department of Accountancy and Business Law Ethics Committee at the University of Otago.

Participation in this survey is completely **voluntary**. Please be assured that your answers will remain anonymous. As the results of this study will be reported in statistical form there will be no way to associate the answers you provide with yourself personally or your firm.

I appreciate that you have a busy schedule and I have attempted to keep this survey as brief as possible. Pilot testing has shown that this survey takes about 10 minutes to complete. This survey consists of three sections, and instructions regarding what is required in each section are provided in the survey.

On completion of the survey, please enclose it in the pre-paid return envelope provided and mail it back to the University of Otago. If you wish to be provided with a summary of the results of this study, or have any further questions, please contact me at gunle489@student.otago.ac.nz. Requesting the results by email will also aid in securing your anonymity.

Your participation in this survey is very much appreciated.

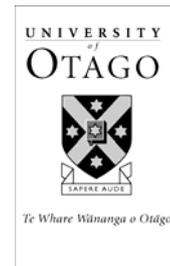
Yours sincerely,

Leanne Gundry
c/o Department of Accountancy and Business Law
University of Otago
PO Box 56
Dunedin
gunle489@student.otago.ac.nz

Appendix J: Cover letter for web-based questionnaire

<Date>

Dear Participant



My name is Leanne Gundry and I am conducting a survey as part of an honours dissertation at the University of Otago. I am interested in learning more about auditor behaviour in a modern audit environment. Your name was randomly selected from the New Zealand Institute of Chartered Accountants (NZICA) database to take part in this survey. Although NZICA is aware that this survey is being carried out, the study is completely independent of NZICA and independent of your employer. This survey has also been given ethical clearance from the Department of Accountancy and Business Law Ethics Committee at the University of Otago.

Participation in this survey is completely **voluntary**. Please be assured that your answers will remain anonymous. As the results of this study will be reported in statistical form there will be no way to associate the answers you provide with yourself personally or your firm.

I appreciate that you have a busy schedule and I have attempted to keep this survey as brief as possible. Pilot testing has shown that this survey takes about 10 minutes to complete. This survey consists of three sections, and instructions regarding what is required in each section are provided in the survey.

This survey will be carried out over the internet, but if you would prefer it to be posted to you please contact me with your postal address. If you wish to be provided with a summary of the results of this study, or have any further questions, please contact me at **gunle489@student.otago.ac.nz**. Requesting the results by email will also aid in securing your anonymity.

Your participation in this survey is very much appreciated.

Yours sincerely,

Leanne Gundry
c/o Department of Accountancy and Business Law
University of Otago
PO Box 56
Dunedin
gunle489@student.otago.ac.nz

Appendix K: Analysis of non-response bias

Comparison of early and late respondents to postal questionnaire: High time budget pressure version:

		N	Mean Rank	Sum of Ranks
Premature signoff	Early respondents	8	6.88	55.00
	Late respondents	9	10.89	98.00
	Total	17		
Accepting weak client explanations	Early respondents	8	9.25	74.00
	Late respondents	9	8.78	79.00
	Total	17		

	Premature signoff	Accepting weak client explanations
Mann-Whitney U	19.000	34.000
Wilcoxon W	55.000	79.000
Z	-1.672	-.194
Asymp. Sig. (2-tailed)	.095	.846

Comparison of early and late respondents to postal questionnaire: Low time budget pressure version:

		N	Mean Rank	Sum of Ranks
Premature signoff	Early respondents	11	11.45	126.00
	Late respondents	10	10.50	105.00
	Total	21		
Accepting weak client explanations	Early respondents	11	10.00	110.00
	Late respondents	10	12.10	121.00
	Total	21		

	Premature signoff	Accepting weak client explanations
Mann-Whitney U	50.000	44.000
Wilcoxon W	105.000	110.000
Z	-.393	-.788
Asymp. Sig. (2-tailed)	.694	.431

Comparison of early and late respondents to web-based questionnaire: High time budget pressure version:

		N	Mean Rank	Sum of Ranks
Premature signoff	Early respondents	33	28.35	935.50
	Late respondents	30	36.02	1080.50
	Total	63		
Accepting weak client explanations	Early respondents	33	30.29	999.50
	Late respondents	31	34.85	1080.50
	Total	64		

	Premature signoff	Accepting weak client explanations
Mann-Whitney U	374.500	438.500
Wilcoxon W	935.500	999.500
Z	-1.727	-1.006
Asymp. Sig. (2-tailed)	.084	.314

Comparison of early and late respondents to web-based questionnaire: Low time budget pressure version:

		N	Mean Rank	Sum of ranks
Premature signoff	Early respondents	30	32.08	962.50
	Late respondents	33	31.92	1053.50
	Total	63		
Accepting weak client explanations	Early respondents	32	31.59	1011.00
	Late respondents	32	33.41	1069.00
	Total	64		

	Premature signoff	Accepting weak client explanations
Mann-Whitney U	492.500	483.000
Wilcoxon W	1053.500	1011.000
Z	-.035	-.397
Asymp. Sig. (2-tailed)	.972	.692

Appendix L: Tests for normality

Tests for normality of distribution of dependent variables:

	Kolmogorov-Smirnov test			Shapiro-Wilk test		
	Statistic	df	Sig.	Statistic	df	Sig.
Premature signoff	.238	164	.000	.770	164	.000
Accepting weak client explanations	.189	166	.000	.834	166	.000

Levene test for equality of variance:

	Levene Test for equality of variances	
	F	Sig.
Premature signoff	2.045	.155
Accepting weak client explanations	.104	.748

Appendix M: Statistical analysis

Testing of hypothesis one (categorical regression, premature signoff as dependent variable, time budget pressure as independent variable):

Model Summary

Multiple R	R Square	Adjusted R Square
.270	.073	.061

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	11.165	2	5.583	5.904	.003
Residual	141.835	150	.946		
Total	153.000	152			

Coefficients

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error			
Time budget pressure level	.182	.083	1	4.788	.030
Personality type	.267	.083	1	10.316	.002

Testing of hypothesis two (categorical regression, accepting weak client explanations as dependent variable, time budget pressure as independent variable):

Model Summary

Multiple R	R Square	Adjusted R Square
.170	.029	.016

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.461	2	2.230	2.252	.109
Residual	150.539	152	.990		
Total	155.000	154			

Coefficients

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error			
Personality type	.172	.084	1	4.172	.043
Time budget pressure level	.008	.084	1	.010	.920

Testing of hypothesis three (univariate analysis of variance, premature signoff as dependent variable, time budget pressure as independent variable, personality type as moderator):

Between-Subjects Factors

		Value Label	N
Time budget pressure level	1.00	Low time budget pressure	76
	2.00	High time budget pressure	77
Personality type	1.00	Type A	77
	2.00	Type B	76

Tests of Between-Subjects Effects

Dependent Variable: PSO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	49.396(a)	3	16.465	2.710	.047
Intercept	3329.076	1	3329.076	547.930	.000
Time budget pressure level	22.160	1	22.160	3.647	.058
Personality type	40.121	1	40.121	6.604	.011
Time budget pressure level * personality type	1.295	1	1.295	.213	.645
Error	905.283	149	6.076		
Total	4710.000	153			
Corrected Total	954.680	152			

Testing of hypothesis four (univariate analysis of variance, accepting weak client explanations as dependent variable, time budget pressure as independent variable, personality type as moderator):

Between-Subjects Factors

		Value Label	N
Time budget pressure level	1.00	Low time budget pressure	78
	2.00	High time budget pressure	77
Personality type	1.00	Type A	78
	2.00	Type B	77

Tests of Between-Subjects Effects

Dependent Variable: WCE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10.975(a)	3	3.658	.579	.629
Intercept	4225.352	1	4225.352	669.142	.000
Time budget pressure level	.068	1	.068	.011	.917
Personality type	6.935	1	6.935	1.098	.296
Time budget pressure level * personality type	2.784	1	2.784	.441	.508
Error	953.502	151	6.315		
Total	5582.000	155			
Corrected Total	964.477	154			

Additional analysis: Categorical regression with premature signoff as dependent variable and personality type only as independent variable.

Model Summary

Multiple R	R Square	Adjusted R Square
.226	.051	.045

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.820	1	7.820	8.133	.005
Residual	145.180	151	.961		
Total	153.000	152			

Coefficients

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error			
Personality type	.226	.079	1	8.133	.005

Additional analysis: Categorical regression with accepting weak client explanations as dependent variable and personality type only as independent variable.

Model Summary

Multiple R	R Square	Adjusted R Square
.169	.029	.022

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4.451	1	4.451	4.524	.035
Residual	150.549	153	.984		
Total	155.000	154			

Coefficients

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error			
Personality type	.169	.080	1	4.524	.035

Appendix N: RAQP frequencies

Frequencies of accepting weak client explanations under high time budget pressure:

Likelihood of accepting weak client explanations	Q1	%	Q3	%	Q5	%	Total
Unlikely (1,2)	63	78%	69	85%	73	90%	205 84.36%
Unsure (3)	6	7%	7	9%	3	4%	16 6.59%
Likely (4, 5)	12	15%	5	6%	5	6%	22 9.05%

Frequencies of premature signoff under high time budget pressure:

Likelihood of prematurely signing off an audit step	Q2	%	Q4	%	Q6	%	Total
Unlikely (1,2)	61	76%	75	92%	66	82%	202 83.47%
Unsure (3)	6	8%	3	4%	6	7%	15 6.20%
Likely (4, 5)	13	16%	3	4%	9	11%	25 10.33%

Frequencies of accepting weak client explanations under low time budget pressure:

Likelihood of accepting weak client explanations	Q1	%	Q3	%	Q5	%	Total
Unlikely (1,2)	65	76%	72	83%	75	86%	212 81.85%
Unsure (3)	4	5%	6	7%	6	7%	16 6.18%
Likely (4, 5)	16	19%	9	10%	6	7%	31 11.97%

Frequencies of premature signoff under low time budget pressure:

Likelihood of prematurely signing off an audit step	Q2	%	Q4	%	Q6	%	Total
Unlikely (1,2)	73	84%	81	95%	77	87%	231 89.53%
Unsure (3)	3	4%	0	0%	3	4%	6 2.33%
Likely (4, 5)	10	12%	4	5%	7	9%	21 8.14%

Appendix O: Analysis of respondents' perceptions of time budgets

Analysis of responses to question 3, section 3: "In your experience, how attainable are the time budgets at your organisation?" with the following scale:

1 2 3 4 5 6 7
Easily Attainable with a considerable Impossible to
attainable amount of effort achieve

Statistics

N	Valid	153
	Missing	15
Mean		4.1797

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	5	3.0	3.3	3.3
	2.00	17	10.1	11.1	14.4
	3.00	20	11.9	13.1	27.5
	4.00	42	25.0	27.5	54.9
	5.00	43	25.6	28.1	83.0
	5.50	1	.6	.7	83.7
	6.00	23	13.7	15.0	98.7
	7.00	2	1.2	1.3	100.0
	Total	153	91.1	100.0	
Missing	System	15	8.9		
Total		168	100.0		

Analysis of responses to question 4, section 3: "With respect to the scenarios given in this survey, how attainable did you consider the time budgets to be overall?" with the following scale:

1 2 3 4 5 6 7
Easily Attainable with a considerable Impossible to
attainable amount of effort achieve

Statistics

N	Valid	151
	Missing	17
Mean		4.1126

