

Time budget pressure and auditor dysfunctional behaviour within an occupational stress model

Shaun M. McNamara*
Taylor McLachlan Ltd, Dunedin
New Zealand

and

Gregory A. Liyanarachchi
University of Otago, Dunedin
New Zealand

* Formerly an honours student at the Department of Accountancy and Business Law, University of Otago. The author's Honours Dissertation provides the basis for this paper.

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Address for correspondence: Gregory A. Liyanarachchi, Department of Accountancy and Business Law, University of Otago, P O Box 56, Dunedin, New Zealand. Tel: 64 03 479 8070; Fax: 64 03 479 8454; E-mail: gliyanarachchi@business.otago.ac.nz

Abstract

This study adds to the current literature on audit time budgets by situating time budget-related pressure issues within a theoretical model of occupational stress (Cooper, et al., 2001; Beehr, 1998; 1995). Accordingly, it focuses on the ways audit personnel cope with the time budget pressure and provides insights into the consequences of these coping mechanisms on audit personnel and audit firms. The study also extends previous research on auditors' perceptions of and responses to the time budget pressure by examining the perceptions of four types of audit staff, namely, juniors, seniors, managers, and partners, employed in two types of audit firms - Big-Four and Non Big-Four.

Consistent with the findings of Kelly and Margheim (1990), the results show an inverted U-shaped relationship between the time budget pressure and reduced audit quality practices (RAQPs) only with respect to the responses of audit managers. When the responses of all four types of audit personnel are combined, however, the results are consistent with the findings of Otley and Pierce (1996a) and Pierce and Sweeney (2004), who found a linear relationship between the time budget pressure and dysfunctional behaviour. These and other findings of the study contribute to the research in this area in several ways. Firstly, the mixed findings of the shape of the relationship between the budget pressure and dysfunctional behaviour points out that audit personnel at different levels cope with the pressure differently, thus making it difficult to generalise the behavioural responses of auditors across all levels. Secondly, this study provides results that may help pinpoint the staff positions whose dysfunctional behaviour may be more difficult to detect (e.g., managers) but may entail serious negative consequences on audit quality. Thirdly, the results show that dysfunctional responses to the time budget pressure are more widespread than has been reported in previous studies. Finally, a significant association between the type of audit firm (Big-Four or non Big-Four) and budget attainability suggests that various firm characteristics also play a part in determining the level of time budget pressure.

Key words: *Audit quality; budget attainability; dysfunctional behaviour; occupational/job-related stress; time budgets; time budget pressure*

INTRODUCTION

Research has identified the presence of several pressures in the audit environment (De Zoort and Lord, 1997) and the ability of some of these to severely undermine the auditors' control environment (Otley and Pierce, 1996b; Pierce and Sweeney, 2004; Sweeney and Pierce, 2004), thereby putting at risk the credibility of the audit opinion reached (Rhode, 1978, cited in CAR:RCR, 1978).¹ The harmful impact of various pressures on auditors' control environment is of serious concern, especially during a time when auditors and their work have attracted strong criticisms and when the auditing profession is under intense scrutiny (see Bazerman, Loewenstein, and Moore, 2002; Coffee, 2002; Clarke, Dean and Oliver, 2003; Eden, Ovadia, and Zuckerman, 2003; Imhoff, 2003; Simms and Oram, 2002). Furthermore, pressures in the work environment, such as the time budget pressure, can lead to serious individual, organisational, and social consequences (Cooper, Dewe and O'Driscoll, 2001). These may include; health issues (individual), reduced quality of audit work and staff turn over (organisational), and health costs and gender bias in audit staff (social).

The time budget pressure is one type of pressure that has the potential to severely undermine auditors' control environment (McNair, 1991). This pressure refers to "time constraints that occur in the audit engagement from limitations on the resources [time] allocable to perform the necessary audit tasks" (De Zoort and Lord, 1997, p. 45). Time budgets can have an impact on auditors' control environment because these have been relied upon both as a control mechanism and a performance measurement tool within the audit firm (Kelley and Seiler, 1982; Cook and Kelley, 1991). As a result, auditors find themselves placed in a "zone of compromise" (McNair, 1991, p. 637). That is, auditors must decide, on an individual basis, on the right combination of audit work to carry out (to maintain a high standard of work) and on the right amount of time to spend on audit tasks. This pressure situation is further intensified by the "double bind" that exists, where auditors are unable to discuss time budget problems with their superiors for fear of being seen as incompetent (McNair, 1991, p. 644).

The level of importance firms place on time budget attainability can also contribute to the level of time budget pressure felt by the auditor. Anderson-Gough, Grey and Robson (2001) found that UK accountants from (then) Big Six firms placed a high level of importance on achieving time budgets. Anderson-Gough *et al.*, (2001, p. 112) claim “failure to perform and even lack of enthusiasm for overtime [unreported and unpaid] were believed by trainees to damage severely an individual’s career prospects”. In other words, the ‘cultural norm’ within these firms appears to place pressure on accountants to come under budget on their time reports, as failure to do so is extremely damaging to their career advancement. Consequently, time budget can also become a source of pressure when firms base staff evaluation decisions on time budget attainability as opposed to basing them on the quality of audit work. This is because, evidence concerning the quality of audit work is more difficult to observe (and measure) (McNair, 1991). Alderman and Deitrick (1982, p. 58) explicate this relationship stating that, “an auditor’s ability to meet time deadlines, including the time budget, is generally believed to be a major criteria for advancement within the firms”.

These issues raise questions about the quality of work carried out by auditors in public practice. It is therefore important to examine whether time budgets are having a significant effect on audit quality. Accordingly, the present study investigates the effects of time budget pressure on the work of auditors in public practice and aims to contribute to the audit time budget literature in several ways. Firstly, this study identifies the time budget pressure issue as an issue of job-related stress, and hence, situates it within a theoretical model of occupational/job-related stress conceptualised by Beehr (1995) and Cooper, *et al.*, (2001). In so doing, the study draws from the occupational stress literature that has gained strong theoretical developments on issues relevant to understanding as well as managing the impact of job-related stress. For example, the concept of stress, appraisals and responses to it, and the outcome of these responses, are well documented in this literature (see Beehr, 1995; Cooper, 1998; Cooper, *et al.*, 2001; Lazarus, 1966; 1991; Selye, 1956). As firms can benefit from a well-established body of occupational stress literature, placing the budget pressure issue within this literature is useful in gaining a deeper understanding of the way audit personnel cope with it. This will also help audit firms to better understand the harmful impact of this pressure on audit personnel and audit

firms, and to identify possible ways of better managing the time budget related issues.

Secondly, this study extends previous research in this area by focusing on responses of four types of audit staff, namely, juniors, seniors, managers, and partners. There is evidence that not only audit seniors but also partners and managers, at least sometimes, respond to the budget pressure in dysfunctional ways (e.g., Cook and Kelly, 1991) and auditors in higher and lower ranks respond to various pressures differently (Moreno and Bhattacharjee, 2003; Gist and Davidson, 1999). Yet, many studies into the time budget pressure have focused mainly on the behavioural responses of audit seniors and juniors (e.g., Otley and Pierce, 1996a; Pierce and Sweeney, 2004; Sweeney and Pierce, 2004; Willett and Page, 1996). By providing results from audit personnel with higher and lower authority in audit firms this study gives deeper insights into auditors' behavioural responses to the time budget pressure. Additionally, the results of this study may be of help in pinpointing staff whose dysfunctional behaviour is more difficult to detect (e.g., managers), yet entail serious negative consequences on audit quality. One reason for limiting the scope of previous examinations in this area to juniors and seniors appears to be that findings identified audit seniors as the staff under the most pressure in audit firms (Kelley and Seiler, 1982) and most susceptible to dysfunctional behaviour (Ragunathan, 1991). Additionally, it may be logical to hypothesize that audit personnel who are at relatively lower levels (e.g., seniors and juniors) in audit firms are under greater pressure to prove their abilities and skills to others than those at higher levels (i.e., managers and partners). Yet it is plausible that some higher rank audit personnel, such as audit managers, are also under pressure to impress others who make decisions about their career prospects. More importantly, the higher the level of hierarchy of audit personnel, the greater the quality implications of dysfunctional behaviour, as these may be difficult to detect through formal quality control processes. Therefore, extending the focus to the behaviour of auditors at lower as well as higher positions under the time budget pressure helps to gain deeper insights into this issue.

Thirdly, most studies on effects of time budget pressure have focused on the behaviour of Big-Four auditors (Otley and Pierce, 1996a; Pierce and Sweeney, 2004; Sweeney and Pierce, 2004). The recent audit time budget literature has also recognised this limitation of scope and has invited future studies to remedy it (see Pierce and Sweeney, 2004, p.437). Accordingly, the present study responds to this call and seeks to contribute to the literature by including both Big-Four and Non Big-Four audit firms. Several studies have highlighted that the work environment of large accounting firms (currently, Big-four) is different from that of small firms (Ardoin, 1986; Kaplan, Keinath and Walo, 2001; Patten, 1995; Soeters and Schreuder, 1988). Specifically, studies show that Big-Four firms have a highly competitive environment (Dalton, et al., 1997) whereas audit personnel in small firms have closer contacts with each other and, relatively, are under little pressure (Patten, 1995). Moreover, studies have pointed out that Big-Four firms are likely to be different from non Big-Four firms, in terms of outsiders' perception of the quality of audits (Krishnan, 2003; Morris and Strawser, 1999), working conditions (Clabaugh, Monroe, and Soutar, 2000), and staff perceptions of job satisfaction (Patten, 1995). Understanding how auditors in different firms respond to the time budget pressure therefore is helpful for furthering knowledge on this issue.

As has been identified in previous studies, this study analyses the effects of several antecedents of time budget pressure on the attainability of time budgets. Providing comparable data with respect to the antecedents of time budget pressure is therefore another contribution it makes. Comparisons of results with those reported in similar studies (e.g., Otley and Pierce, 1996a) is important to identify measures audit firms can undertake to create a situation where the level of time budget pressure remains reasonable. As the purpose of time budgets, among other factors, is to demonstrate the planning of audit work, understanding the impact of various antecedents to budget attainability is important for audit firms so they can make sure that their plans are realistic. More importantly, the ability to generalise findings on the difficulty of time budget attainability and factors influencing tighter time budgets into the wider population of auditors will depend on the availability of data from studies conducted in different countries and time periods, and at different levels and in different firms of auditors (Lindsay, 1995). In this regard, this study makes an important contribution by providing recent data from a new geographical location - New Zealand.

Finally, the present study was undertaken in 2004, after the Enron-Anderson saga that followed widespread negative publicity for auditors and raised serious questions about the quality of their work (Coffee, 2002; Clarke, Dean and Oliver, 2003; Eden, Ovadia, and Zuckerman, 2003; Imhoff, 2003; Simms and Oram, 2002). The time budget pressure and related dysfunctional behaviours have serious implications on audit quality. Thus, it is important to examine the presence of this pressure after these events, as audit firms may have taken greater care to ensure that quality lapses that stem from controllable factors such as time budgets are minimised. In contrast, any evidence relating to the prevalence of the time budget pressure during times when audit work is most questionable in the public eye may signal the difficulty of changing the audit work environment.

The remainder of this paper is organised as follows. The relevant literature is reviewed in the next section and hypotheses are developed in section three. The research method is described in section four while the results are presented in section five. Next, limitations of the study, a discussion and implications of the results are presented in section six. Finally, conclusions and suggestions for future research are provided in section seven.

LITERATURE

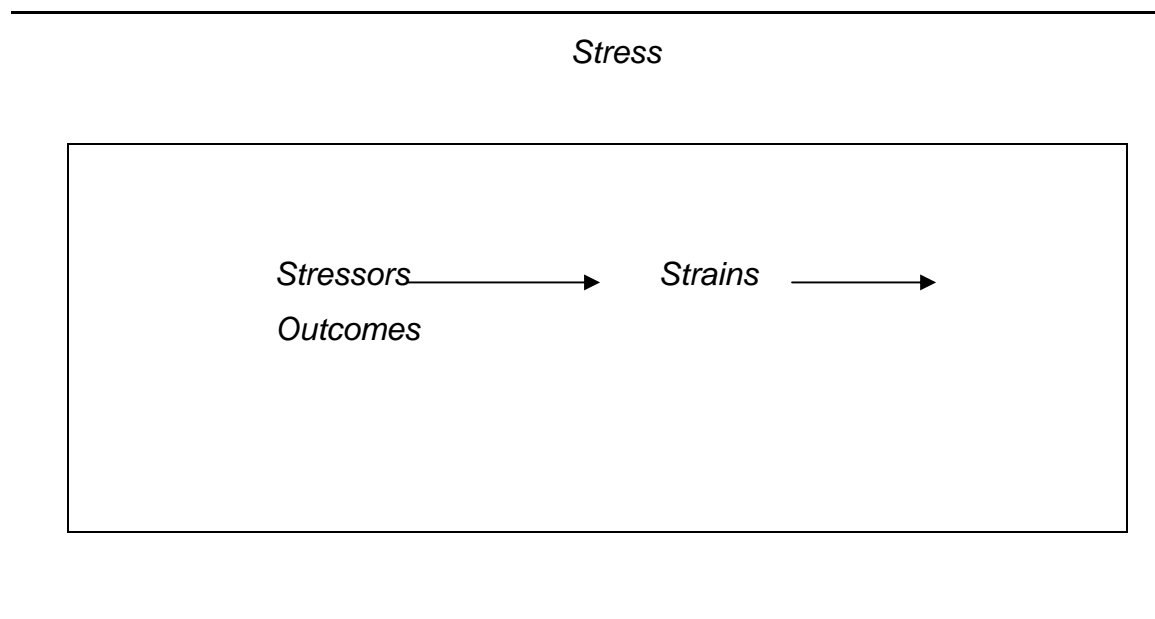
Occupational or job-related stress

The recent literature on job-related stress (also occupational stress, Beehr, 1998), defines the basic terms used in this area of research. For example, Beehr (1998, p. 6) defines *stressors* as “stress-producing events or conditions” while Cooper et al., (2001, p. 14) define this term as “the events or properties of events (stimuli) that are encountered by individuals”. Similarly, *strains* are defined as “the individuals’ responses to such stressor stimuli that are deemed harmful to themselves” (Beehr, 1998, p.6) and “the individual’s psychological, physical, and behavioural responses to stressors” (Cooper et al., 2001, p.14). Beehr (1998, p.6) defines *stress* as a “general term describing situations in which stressors and strains are present” while Cooper et al., (2001, p. 14) state that *stress* refers to “the overall transactional process”. The outcomes of the stress situation are defined as “the consequences of strain at both

the individual and the organizational level” (Cooper, et al., 2001, p. 14). Simply put, stressors refer to ‘antecedent conditions’ and strain to one’s ‘responses to these conditions’, which in turn are followed by individual and organizational consequences (Cooper, et al., 2001, p. 14).

A theoretical model of job-related stress embedded in the above conceptualisations can be presented as follows.

Diagram 1: A theoretical model of job-related stress (Cooper, et al., 2001)



Beehr (1998) refers to the relationship between stressors in the work environment and strains as the ‘core relationship’ in an occupational stress model. Furthermore, Beehr (1998) provides examples for the stressors that are often researched and found to support this core relationship. These include role ambiguity, role conflict, under-utilisation of skills, interpersonal conflict, daily events at work, role overload, lack of participation, and job future ambiguity (Beehr, 1998). According to Cooper, et al., (2001), there are several sources of strains or stressors that research in this area has grouped under the label of work environment-related stressors. Specifically, Cartwright and Cooper (1997) identify six types that various stressors in the work environment may be categorised into. These broader types include job characteristics (e.g., workload); organisational roles (e.g., role ambiguity); work relationships (e.g., leadership style); career development (e.g., promotion); organisational factors (e.g., lack of participation in decisions); and work/non-work

conflict (e.g., time-based conflicts) (Cartwright and Cooper, 1997; Cooper, et al., 2001).

The above discussion shows that the relationship between the audit time budget pressure (e.g., stressor) and the dysfunctional behaviour (e.g., strain) resembles the core relationship identified in the organisational stress literature. The work environment of auditors also includes many of the stressors and antecedents to these (e.g., organisational structure, culture, etc.) researched widely in the organisational literature. Accordingly, situating the time budget pressure within an organisational stress model is appropriate for gaining a deeper understanding of the sources of the time budget pressure and auditors' behavioural responses to this pressure. Although the present study does not measure the outcomes of auditor dysfunctional behaviour either for the organisation or to the individual, this conceptualisation will be helpful for identifying clues about these as well. Yet, with the exception of some earlier studies in this area (Cook and Kelley, 1991; Kelley and Margheim, 1990), recent studies (Coram, Ng, and Woodliff, 2003; Pierce and Sweeney, 2004; Sweeney and Pierce, 2004) have taken a management control perspective, and hence, taken little interest in the occupational stress literature. This leaves an interesting opportunity to extend the audit time budget literature into the broader area of occupational stress literature.

Therefore, an audit time budget pressure model is developed along the lines of the above occupational stress model (Diagram 1). This model is presented after providing a discussion on the relevant time budget pressure literature.

Audit time budget pressure

When faced with time budget pressure, auditors respond to it in two main ways: functionally or dysfunctionally (De Zoort and Lord, 1997). One type of functional behaviour is to simply work harder and charge all time properly (Kelley and Seiler, 1982; Cook and Kelley, 1991; Otley and Pierce, 1996a), though due to the damaging effects of time budget overruns on career advancements (Cook and Kelley, 1991) not all auditors see this as a potential solution. Several other types of functional behaviour have been identified as occurring in practice. These include audit personnel requesting and obtaining an increase for their time budgets from their

superiors (Cook and Kelley, 1991; Kelley and Seiler, 1982; Otley and Pierce, 1996a; Coram, Ng and Woodliff, 2003), and the use of more efficient audit techniques (Coram et al., 2003). In experimental settings, time budget has been identified as having the potential to improve audit judgements by encouraging auditors to focus more on relevant information and avoid the danger of allowing judgements to be influenced by irrelevant information (Glover, 1997).

Notwithstanding the possibility of the above functional behaviours occurring, the potential dysfunctional effects of time budget pressure deserve careful scrutiny, as dysfunctional effects can seriously undermine the quality of audit work. Accordingly, research into the time budget pressure has focused on two main types of dysfunctional behaviour – reduced audit quality practices (RAQPs) ² and under reporting of time (URT). One of the widely-researched and most serious RAQPs is *premature sign-off* (Alderman and Dietrick, 1982; Hyatt and Lovig, 2001), which refers to “falsely signing off a required audit step, which is not covered by other steps, without completing the work or noting the omission of procedures” (Otley and Pierce, 1996a, p. 58). Both Otley and Pierce (1996a) and Raghunathan (1991) found similar levels of admittance to premature sign-off as initially found by Rhode (1978 cited in CAR:RCR). Conversely, McNair (1991) found a much lower rate of admittance - although McNair’s results may have been compromised by the interview method used, which revealed the participants’ identities to the researcher thereby discouraging participants from admitting to RAQPs.

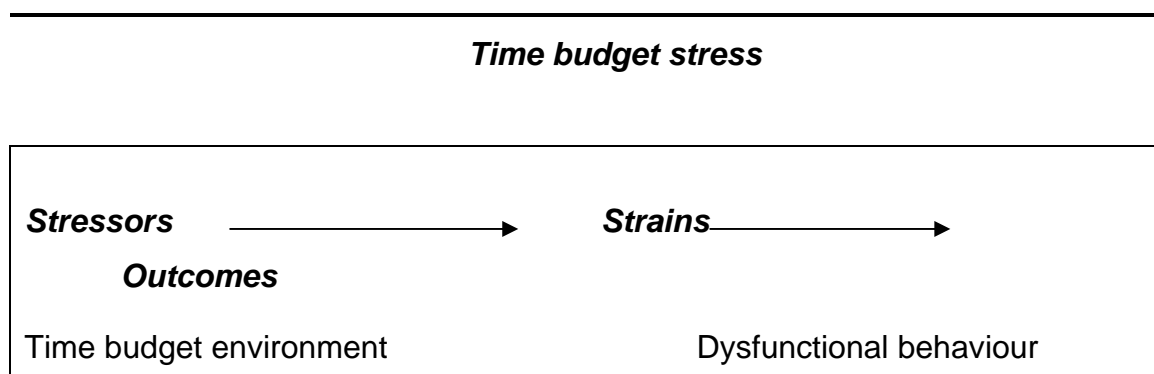
Other RAQPs that seems to occur in audit practice include accepting weak client explanations (Coram et al., 2003; Dalton and Kelley, 1997; Kelley and Margheim, 1990; McNair, 1991; Otley and Pierce, 1996a; Pierce and Sweeney, 2004; Willett and Page, 1996); making superficial reviews of client documents (Dalton and Kelley, 1997; Kelley and Margheim, 1987, 1990; Otley and Pierce, 1996a; Pierce and Sweeney, 2004); and failing to adequately research accounting principles (Dalton and Kelley, 1997; Kelley and Margheim, 1987, 1990; McNair, 1991; Otley and Pierce, 1996a; Pierce and Sweeney, 2004). Several studies have found other types of RAQPs occurring in practice as a result of time budget pressure. For example, rejecting awkward-looking items from a sample (Coram *et al*, 2003; Willett and Page, 1996), greater than appropriate reliance on clients’ work (Pierce and Sweeney,

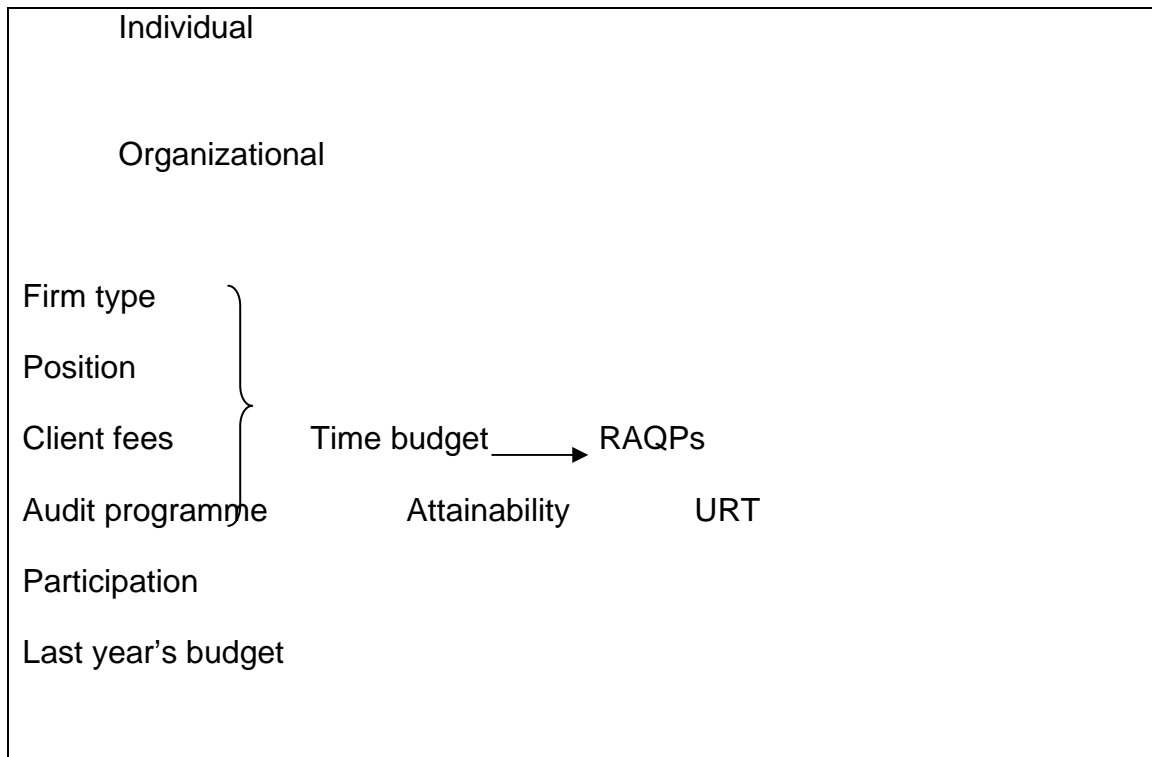
2004), and not pursuing questionable items (McNair, 1991). Empirical studies that ask auditors ‘whether they believe their standard of work drops below what is reasonably expected’ have also reported auditors admitting to a high incidence of RAQPs (Cook and Kelley, 1991; Kelley and Seiler, 1982; Willett and Page, 1996; Otley and Pierce, 1996a).

The URT, the other main type of dysfunctional behaviour that has received attention in the research, refers to auditors who under-report the actual time they spend on a particular audit job or procedure (Otley and Pierce, 1996a; Kermis and Mahapatra, 1985). Although URT is often argued to have far less of a detrimental effect on the audit carried out than RAQPs (Alvesson and Karreman, 2004), it still undermines the auditors’ control environment (McNair, 1991). This is because URT has the potential to carry forward into next year’s time budget (Fleming, 1980) thereby placing additional pressure on auditors who perform the same tasks in the future, thus leading to RAQPs (Pierce and Sweeney, 2004; Ponemon, 1982; Otley and Pierce, 1996a). Cook and Kelley (1991) have found over half of New Zealand senior and junior auditors under-report their time at least occasionally, while Otley and Pierce (1996a) have found similar levels of URT in Ireland and Coram et al., (2003) report even higher levels in Australia. Several other under-reporting practices have come to light through research. These include shifting time: (a) to non-chargeable areas of the audit (Cook and Kelley, 1991; Kelley and Seiler, 1982; McNair, 1991; Otley and Pierce, 1996a), (b) to another client the auditor is working with (Cook and Kelley, 1991; McNair, 1991), and (c) to other audit tasks on the same audit (McNair, 1991).

A theoretical model

Diagram 2: A theoretical model of time budget stress





The occupational stress model depicted earlier in Diagram 1 provides the basis for conceptualising the audit time budget stress situation. The theoretical relationships of the main variables are depicted in Diagram 2 above. This model (Diagram 2) shows that various types of stressors relating to the time budget stress are found in the audit work environment. These lead to strained responses by audit personnel (e.g., RAQPs and URT). The present study focuses on this core relationship.

The model also shows that strains lead to individual as well as organisational outcomes. For example, a lower job satisfaction and health issues are individual outcomes, whereas reduced audit quality, absenteeism, loss of staff are organisational outcomes. However, developing hypotheses relating to all these outcomes are beyond the scope of this study.

HYPOTHESES

Drawing from the organisational theory on performance aspirations (e.g., the works of Hofstede, 1968; Stedry, 1960), both Kelley and Margheim (1990) and Otley and Pierce (1996a) predicted that an “inverted U shape” would exist between the

incidence of dysfunctional behaviour and time budget pressure. As Otley and Pierce (1996a, p. 36) explain:

“... as budgets become tighter, aspiration levels will increase, and auditors will increasingly resort to dysfunctional behaviour in an effort to realize those aspirations. At a certain point, budgets are perceived as becoming unattainable, even with a high level of dysfunctional behaviour. The effort involved in concealing such behaviour is no longer worthwhile; aspiration levels will fall and dysfunctional behaviour will also fall.”

Kelley and Margheim (1990) concluded that the relationship found in their study conformed to such a theory. However Otley and Pierce (1996a) found that as time budgets approached unattainable levels (i.e., highest levels of pressure) the level of dysfunctional behaviour peaked. Otley and Pierce (1996a) suggested the differences in sample and audit conditions between the two studies as some reasons for this inconsistent result. Another important reason was the difference in auditor perception. For example, Irish auditors placed a significantly higher level of importance on time budget achievement (Otley and Pierce, 1996a) than their US counterparts (Cook and Kelley, 1991). The results of a recent study conducted in Ireland also show that there is a negative relationship between time budget attainability and auditors' dysfunctional behaviour (Pierce and Sweeney, 2004).

Despite conflicting results about the exact shape of the relationship, what is evident in these studies is that auditor dysfunctional behaviour tends to initially increase as time budgets become less attainable. Furthermore, although there are two types of dysfunctional behaviour (i.e., URT and RAQPs), studies show that the budget pressure has a similar impact on both URT and RAQPs (Otley and Pierce, 1996a; Pierce and Sweeney, 2004). Also, Cook and Kelley (1991) found time budgets to be extremely important for New Zealand auditors as compared with auditors in the United States (Kelley and Margheim, 1990). Therefore, with respect to auditor behaviour in New Zealand, dysfunctional behaviour is predicted to increase as time budgets become less attainable. This leads to the following two hypotheses, stated in their alternative form as follows:

*H₁: As time budgets become **less** attainable, the incidence of reduced audit quality practices will increase.*

*H₂: As time budgets become **less** attainable, the incidence of under-reporting of time will increase.*

Research results have suggested that both the auditor position in audit firms (Kelley and Seiler, 1982) and the type of audit firm (Alderman and Deitrick, 1982) may influence auditors' perceptions of time budget pressure. For example, Kelley and Seiler (1982) identified that audit seniors, and to a lesser extent audit juniors, as those under the most time budget pressure. McNair (1991) explained that the staff holding junior positions carried out the bulk of the field audit work (see also Willett and Page, 1996), and as a result, were required to strive for the time budget on a daily basis, thus resulting in their exposure to a higher level of pressure. Cook and Kelley's (1991) New Zealand findings support this claim. They found that seniors and juniors were under significantly more pressure than those in the positions of partner or manager. Also, Gist and Davidson (1999) showed that the staff level of an auditor is important in explaining time budget variances, while the findings of Houston (1999) showed that the position an auditor holds may have an influence on their time budget decisions. More importantly, there is evidence that auditors in higher and lower ranks respond to pressures differently (Moreno and Bhattacharjee, 2003; Gist and Davidson, 1999). Specifically, the results of Moreno and Bhattacharjee (2003) showed that higher rank auditors were better able to manage pressures from potential client businesses than lower rank auditors. These findings demonstrate that a formal examination of the impact of auditors' position on their perception of budget attainability is warranted.

Additionally, studies on occupational stress suggest that the employee perception of job-related pressure is affected by their sense of control over the work environment (Fox, Dwyer, and Ganster, 1993). Specifically, jobs with high demands coupled with a low sense of control may lead to perceptions of higher pressure. A low sense of control over the work environment is possible where employees lack decision-making power and a variety of skills or 'skill discretion' (Cooper et al., 2001, p. 136). Certain audit personnel in lower rank positions (e.g., audit seniors), as compared with higher rank positions (e.g., audit managers), are more likely to fall into this

category. Thus, the audit personnel in lower rank positions may perceive time budget as more difficult to attain than those in higher rank positions. Accordingly, the following hypothesis is formed, which is stated in its alternative form:

H_{3A}: The perceived time budget pressure is higher for auditors holding lower rank positions than those holding higher rank positions.

Several studies into the time budget pressure have looked at the behavioural effects of time budgets specifically in what is commonly called *big firms* (Anderson-Gough *et al.*, 2001; Kelley and Margheim, 1990; Pierce and Sweeney, 2004; Otley and Pierce, 1996a). Contrary to Alderman and Deitrick's (1982) claims, these studies have found that auditors in *big firms* are also not only under time budget pressure, but due to the competitive cultures operating within these firms, dysfunctional behaviour is also rife (Otley and Pierce, 1996a; Anderson-Gough *et al.*, 2001). Given that recent studies have focussed specifically on the *big firms* (e.g., Pierce and Sweeney, 2004; Otley and Pierce, 1996a), little is known about any differences between Big-Four and non Big-Four auditors with respect to their responses to the time budget pressure. Accordingly, Pierce and Sweeney (2004) have recognised the need for extending the time budget research to include other firms as well.

Specifically, Pierce and Sweeney (2004, p. 437) have recognised that an area in which auditors' experience between these two types of firms is likely to differ is in the 'intensity of time pressure'. Research in other areas (e.g., staff mentoring) have identified that the work environment of Big-Four firms is 'highly competitive' with 'extreme work pressure' and sometimes 'hostile internal/external control and supervision' (Dalton *et al.*, 1997, p. 33, Herbohn, 2004). In contrast, small firms have been identified as less stressful, with greater work diversity, greater job security, and a more personal work environment that permits closer contact with senior staff (Gaertner and Ruhr, 1981; Ardoin, 1986; Patten, 1995). These differences between the work environments of the two types of firms suggest that Big-Four auditors are likely to perceive the time budget pressure more negatively than their non Big-Four counterparts. This leads to the following hypothesis:

H_{3B}: The perceived time budget pressure is higher for auditors working in Big-Four firms than for those working in non Big-Four firms.

There are several other factors that have been found to influence auditor perceptions of the attainability of their time budgets (Otley and Pierce, 1996a). For example, Rhode's (1978, cited in CAR:RCR, 1978) study reported that client fees have the potential to create time budget pressure. Similarly, McNair (1991, p. 636) argued that time budgets are influenced almost directly through client fees, because "the product supplied by the audit firm is a service that is labour intensive." Cook and Kelley (1988) found that auditors face contradictory goals due to flow-on effects from fee pressures. In a further study, Cook and Kelley (1991) confirmed that fee pressure from clients was the most commonly perceived cause of time budget pressure (particularly among New Zealand auditors, with 50.4% of respondents responding affirmatively). Extending these research efforts further, Otley and Pierce (1996a) have attempted to formalise this relationship in hypothesising that the perceived level of fee pressure will have a direct negative association with the attainability of time budgets. Their results confirmed this prediction, and consequently Otley and Pierce (1996a, p. 53) reached the conclusion that "...it therefore seems important that audit firms should take measures to limit the perceived influence of client [fees] in the [time] budget preparation process." This leads to the following hypothesis:

H_{3C}: As the perceived influence of client fees over the audit time budget increases, the perceived attainability of those time budgets will decrease.

The audit programme (as required by the New Zealand Codified Audit Standards – ICANZ, 2002, p. 64) contains a detailed summary of the necessary work to be carried out on any given audit task. Alderman and Deitrick (1982) have found that 96% of respondents in their study agree that the audit programme assists in the proper performance of an audit. Given client fees have been shown to have a negative impact on time budget pressure, it may be argued that it is better to base time budgets on the audit programme. Cook and Kelley (1988, 1991) have found this to be the case, and consequently, they have argued that if time budgets were based on audit programmes, they would become more realistic. In a similar vein, Kelley and

Margheim (1987) have warned that, in the light of the fact that the audit profession is moving towards a fixed-fee basis at the time, firms must ensure that time budgets are set based on the work to be carried out, not on the fee level. In several studies, the relationship between audit programme and time budget has also been formalised, thereby enabling the research to detect a positive association between these two variables (McDaniel, 1990; Otley and Pierce, 1996a). This leads to the following hypothesis:

***H_{3D}:** As the perceived influence of the audit programme over the audit time budget increases, the perceived attainability of those time budgets will also increase.*

Prior research indicates that the initial draft time budget is generally produced based on last year's actual figures (Fleming, 1980). Therefore as audit firms are often involved in repeat engagements (Imhoff, 2003), last year's actual time can have a major influence on the current year's time budget. Otley and Pierce (1996a) have tested this relationship, concluding that last year's actual figures appear to have more influence on the time budget than the audit programme, and a slight positive influence on time budget attainability. The following hypothesis is tested:

***H_{3E}:** As the perceived influence of last year's actual time budget over this year's time budget increases, the perceived attainability of this year's time budget will also increase.*

Organisational theorists have long shown an interest in the effects on performance of people when they participate in the budget-setting process (e.g., Argyris 1952). In particular, Hofstede (1968) has found that participation in the budget setting process allows "better communication, more relevant budgets and greater acceptance and commitment to the budget as an attainable target", while Reid (2002) claimed that participation also increases motivation. Referring to the work of Barrett, Cooper and Jamal (2003), a recent study has suggested that as there is evidence that lower ranked staff are empowered by allowing them more autonomy, higher levels of staff in setting budgets can be expected (Pierce and Sweeney, 2004). The results of Otley and Pierce (1996a) suggest that participation may result in more attainable time budgets among auditors. However, Pierce and Sweeney (2004) have found a non

significant correlation between participation and budget attainability. They suggest that participation may also be in the form of pseudo-participation, making little impact on the motivation and commitment of the participants (Pierce and Sweeney, 2004, p. 436). Accordingly, keeping in line with developments in the literature and considering the conflicting results relating to the influence of participation on budget attainability, the following hypothesis is tested:

H_{3F}: As the perceived level of auditor participation in setting the time budget increases, the perceived attainability of those time budgets will also increase.

METHOD

Previous research into the time budget pressure has used a variety of research methods. The most appropriate research method for this study was the questionnaire method. A major reason for this is its widespread use in several successful previous studies that examined auditor dysfunctional behaviour (e.g., Coram et al., 2003; Cook and Kelley, 1991; Otley and Pierce, 1996a; Rhode, 1978, cited in CAR: RCR, 1978; Willet and Page, 1996). Therefore, the use of this method will result in comparable data.

More importantly another reason is that given the sensitive nature of the data involved, alternative research methods have relatively more serious limitations than the questionnaire method. For example, Lee (2002) used semi-structured interviews, but results suggest (i.e., a comparably low admission rate to dysfunctional behaviours) that participants may have been reluctant to admit to such behaviour in a one-on-one situation. Another alternative is the experimental method as used by McDaniel (1990). However this method has been questioned on the grounds of the “sensitive” and “confidential” nature of the behaviour examined (Otley and Pierce, 1996a). Therefore anonymity is deemed important, although it cannot be completely assured when using the experimental method (Otley and Pierce, 1996a). A third reason is the practicality, as this method is useful when there are constraints on financial resources and time.

However, the questionnaire also suffers from some weaknesses, and some of these maybe specific to this area of research. Buchman and Tracy (1982) point out two

potential problems, drawing from the initial work of Rhode (1978, cited in CAR:RCR, 1978): Firstly, respondents may refuse to respond (i.e., increasing non-response bias); or secondly, respondents may return misleading responses designed to conceal unacceptable behaviour (i.e., resulting in misleading response bias). To remedy this drawback, several previous studies have ensured the confidentiality of questionnaire responses (Kelley and Margheim, 1987, 1990; Raghunathan, 1991). Otley and Pierce (1996a) attempted to ensure both anonymity and confidentiality and reported both a high response and an admittance rate.

Research instrument

The study employs a modified version of the questionnaire used in Otley and Pierce (1996a) [with the permission of the first author] for collecting data. Two new questions are added to the Otley and Pierce (1996a) questionnaire for collecting data about respondents' 'position' in the audit firm and the 'type of audit firm' they work for. A copy of the research instrument is presented in Appendix A.

Sample selection and administration

A random sample was obtained from the New Zealand Institute of Chartered Accountants (NZICA). The sample included 594 auditors who were drawn from three groups with varying levels of auditing experience. Participants in each of the three groups were randomly assigned into either postal or an online mode of administration. This resulted in 300 auditors being assigned to the postal group and the remaining 294 to the online group.² Under both modes of administration participants were assured of the confidentiality and anonymity of their responses.

Data

A summary of response analysis is shown in Table I. Of the total sample, 19 were excluded prior to administering the survey for various reasons (see Table 1), resulting in 575 questionnaires being sent out. Despite the NZICA database indicating auditing as a field of interest, several respondents (36) replied stating they were not auditors and several others had not worked in auditing for a number of years. These were excluded from the analysis as well as partially complete responses, leaving 151 responses for analysis (see Table 1).

[take in Table 1]

The demographics of respondents indicate that participants were on average 34.4 years in age and had been employed by their current employer as an auditor for 5.4 years. The demographic data shows almost an even split between male and female respondents (i.e., 49.7% of the respondents were male). Furthermore, an analysis between the group of online participants and postal participants indicated that there was no significant difference in response rates, nor any bias due to the mode of response.

The questions used in this study's questionnaire (adapted from Otley and Pierce, 1996a), are based on a number of previous studies in the area of time budget pressure and dysfunctional auditor behaviour (see Fleming, 1980; Alderman and Deitrick, 1982; Kelley and Seiler, 1982; Brownell, 1981, 1983; Kelley and Margheim, 1987, 1990; Cook and Kelley, 1991). Given the previous use of questions in various studies, the reliability and validity of these questions as research measurement tools has been verified to some degree. However, a semi-structured interview with an audit manager was conducted, in an attempt to ensure that the differences in the audit environments between Ireland in 1996 (Otley and Pierce, 1996a) and New Zealand in 2004 would not affect the questionnaire's relevance to the target sample. The manager revealed that the questions were reasonable for New Zealand's current audit environment, thus helping ensure the reliability of the instrument. Additionally, Cronbach's alpha coefficients were computed, indicating adequate internal consistency for each of the three variables examined in the study (coefficients greater than 0.70; Nunally, 1978). The Cronbach alpha coefficients with respect to the time budget attainability, RAQPs, and URT, were 0.84, 0.79, and 0.75 respectively. These compare well with the three scores reported in Pierce and Sweeney (2004): 0.66 (budget attainability), 0.82 (quality threatening behaviour or RAQPs) and 0.72 (URT). Also, with respect to the budget attainability, although Pierce and Sweeney (2004) have reported a score less than 0.70, the present study achieves a much higher coefficient (i.e., 0.84). Accordingly, the internal consistency of the three variables examined in this study can be considered adequate.

Finally, according to Buchman and Tracy (1982), two possible problems of using a questionnaire in this area of research are respondents refusing to respond or participants replying with misleading responses. Notwithstanding the measures taken in the current study to reduce these biases (i.e., by providing guarantees of confidentiality and anonymity) it is difficult to control for these completely. Therefore an early/late (mid-range split) bias test has been carried out as a proxy for non-response bias. The results of the Mann-Whitney U tests showed there was no significant bias among early and late respondents at the 0.05 significance level.

Data analysis

Data obtained for the current study conformed to either the nominal or ordinal scale (Siegel and Castellan, 1988). Ordinal scale data have been treated contentiously by previous research and, in some cases, large ordinal scales have been considered to be measuring continuous variables (Orme and Buehler, 2001), thus enabling parametric testing. In such cases, Siegel and Castellan (1988, p. 35) claim that “they cannot be treated by parametric methods unless precarious and, perhaps, unrealistic assumptions are made about the underlying distributions.” Therefore, despite the residuals of the dependent variables not breaching the normality assumptions, and previous research in this area using parametric techniques (e.g., Kelley and Margheim, 1990; Pierce and Sweeney, 2004; Otley and Pierce, 1996a;), this study used nonparametric statistical tests. This was considered a conservative and acceptable approach because as Siegel and Castellan (1988, p. 35) claimed “...by using a parametric test, the researcher would ‘add information’ and thereby, create distortions which may be as great and as damaging as those introduced by the ‘throwing away of information’.”

The data were analysed using the categorical regression with optimal scaling (CATREG) Version 2 (SPSS Version 11, 2005). CATREG is an alternative regression model that has been used in behavioural research in several instances recently (for recent applications of CATREG see Dusseldorp and Meulman, 2001; Borders and van Zyl, 2002). CATREG does not rely on the stricter assumptions associated with multiple regression, and specifically allows the inclusion of ordinal or multi-categorical data (SPSS, 1999).

RESULTS

The summarised results of the CATREG model in Table 2 show that, as expected time budget attainability has a negative impact (Beta = -0.411) on the incidence of RAQPs, which is significant at less than the 1% level (see Table 2: Adj. $R^2 = 0.134$, $F = 29.269$, $p < 0.01$), consistent with H_1 . Based on these results, H_1 cannot be rejected, because as time budgets become *less* attainable the incidence of RAQPs increases significantly.

[take in Table 2]

Consistent with previous research (e.g., Otley and Pierce, 1996a; Kelley and Margheim, 1990), an analysis was also carried out by splitting respondents into five groups based on their attainability levels (i.e., group 1 = easy to attain, group 5 = difficult to attain). The results are depicted in Figure 1. An increasing relationship exists across the five groups as time budgets become less attainable (see Figure 1), which is consistent with H_1 . The non-parametric Jonckheere-Terpstra Test Statistic of -2.135 and corresponding significance level of 0.033 indicate that an ordered sequence persists in the five groups, at less than the 5% significance level. Again these results are consistent with H_1 .

[take in Figure 1]

As predicted, the summarised results of the CATREG model in Table 2 (Regression 2) show that time budget attainability has a significant negative impact (Beta = -0.465) on the incidence of URT, at less than the 1% level of significance (see Table 3: Adj. $R^2 = 0.178$, $F = 39.407$, $p < 0.01$). Based on these results, H_2 cannot be rejected at the 0.01 significance level. This is because as time budgets become *less* attainable, the incidence of URT increases significantly.

[take in Table 3]

Consistent with previous research (Otley and Pierce, 1996a; Kelley and Margheim, 1990), an analysis was carried out by splitting respondents into five groups based on

their attainability levels (group 1 = easy to attain, group 5 = difficult to attain). Despite the minor decrease from groups two to three (shown in Figure 2), the increasing relationship is again consistent with H_2 as time budgets become more unattainable. This is further supported by the Jonckheere-Terpstra Test statistic of -3.769 and a corresponding significance level of 0.000 indicating that an ordered sequence persists across the five groups, which is significant at less than the 0.01 level.

[take in Figure 2]

Antecedents of time budget attainability

The test results of H_{3A} to H_{3F} are presented in Table 3. These results show that, as predicted, the type of firm has a significant influence on auditors' perceptions of budget attainability. Auditors employed in non Big-Four firms perceive budgets as being easier to attain than their Big-Four counterparts. Table 3 shows that this difference in auditors' perception is significant at the 0.01 level, thus supporting H_{3B} . The position of auditors has a significant influence on their perception of budget attainability. However, contrary to the prediction, lower rank auditors perceive budgets as easier to attain than do their higher rank counterparts. Accordingly, the results do not support H_{3A} . A comparison of the perception of budget difficulty among the four levels of staff shows that audit juniors believe that budgets are easier to attain than do either the seniors or managers. This may provide an explanation for the unexpected direction (a positive sign as opposed to a negative sign) of the results.

Furthermore, as predicted, client fees have a significant negative influence on auditors' perception of time budget attainability at less than the 1% level. Hence the results support H_{3C} . Similarly, last year's actual time budgets and participation have a significant positive influence. These results are in line with those predicted. Therefore, H_{3E} and H_{3F} cannot be rejected at the 1% level. Contrary to the prediction, Table 3 shows a significant negative influence of the audit programme on perceptions of time budget attainability. Therefore, H_{3D} can be rejected at the 0.01 significance level.

[take in Table 3]

DISCUSSION

There are several limitations that need to be considered when interpreting the results of the study. Firstly, due to differences in audit work environments among countries, the results may not be able to be generalised to audit practice outside New Zealand. Additionally, this survey relies on participants' interpretations of the relevant scales used. As pointed out in Otley and Pierce (1996a), participants may have different perceptions about what is considered an attainable time budget. Furthermore, the results of the study may not be directly comparable to those reported in previous studies due to the difference in the data analysis method used.

The findings of this study in relation to auditors across all levels indicate that the two types of dysfunctional behaviour (i.e., RAQPs and URT) significantly increase as time budgets become less attainable. These results therefore add support to the findings of Otley and Pierce (1996a) who found a linear relationship between time budget pressure and dysfunctional behaviour although they contradict the findings of Kelley and Margheim (1990). The results of the three studies are best illustrated in Figure 3.

[take in Figure 3]

There are several possible explanations for the different relationships and levels of RAQPs shown in Figure 3. Firstly, the lower incidence of RAQPs found by Kelley and Margheim (1990) is possibly partly due to their study focussing on "one specific recent audit" (Otley and Pierce, 1996a) whereas both of the other two studies have looked at the last year's audit work. Furthermore, the differences in country, year, position in the audit firm, and the audit firm type of participants, may all offer some explanation for the different relationships persisting in this study (that replicated Otley and Pierce, 1996a) and in Kelley and Margheim (1990). However, the importance placed on achieving the time budget appears to be one underlying factor, which affects the relationship between time budgets and dysfunctional behaviour. For example, when achieving budgets are important for performance evaluations, audit

personnel are likely to continue to resort to RAQPs in order to stay within budgets. As Otley and Pierce (1996a, p. 52) claim:

“Although audit time budgets in the USA are perceived to be demanding, there is evidence that budget achievement is not seen as a rigidly applied criterion for a successful career ... Evidence from the current study suggests that budget achievement is seen as critically important for a good overall performance evaluation.”

Given that Cook and Kelley (1991) identified that New Zealand auditors place high importance on achieving time budgets, it appears probable that this is a contributing factor to the relationship found in the current study. It seems that time budget achievement is seen as so important in the New Zealand audit environment that even when auditors (especially audit seniors) perceive their time budgets as unattainable they never give up, and therefore carry out more dysfunctional behaviour in order to achieve them. In contrast, it appears that as auditors in the United States (i.e., Kelley and Margheim, 1990) do not place such importance on attaining time budgets, and consequently appear to decrease their dysfunctional behaviour when time budgets become unattainable. This may explain inconsistent results in relation to the inverted U shape found between time budget attainability and dysfunctional behaviour in the United States but not Ireland or New Zealand.

However, as the present study focused on auditors at four different levels (i.e., partners, managers, seniors, and juniors), the results are analysed further according to auditors' responses in each of the four groups. Figures 4 and 5 below illustrate these relationships. These results show that the relationship between the audit time budget pressure and RAQPs varies between the audit managers and seniors. Specifically, an inverted U-shaped relationship is noted with respect to the responses of managers (see Figure 4), while seniors' responses show a linear relationship (see Figure 5).

[take in Figure 4]

[take in Figure 5]

The various reasons offered earlier therefore seem to be valid only with respect to the responses of audit seniors but not for the responses of audit managers surveyed in this study. Although the difference in staff level appears to explain the results of this study, this is still problematic as Kelley and Margheim (1990) showed an inverted U relationship for a sample of audit seniors and juniors. Furthermore, while they reported an inverted U relationship for both URT and RAQPs, this study shows that such a relationship exists only in the case of RAQPs. Therefore, the reasons for different results between the three studies are not entirely clear.

Judging by the difference between responses of managers and seniors in this study, it appears that only managers, but not seniors, seem to recognise the futility of increasing RAQPs as budgets become increasingly difficult. One reason for this may be the level of difficulty involved in convincing others about the time budget difficulties. For example, it may be easier to convince audit partners that extra time is required only when pressure situations are very high, and hence, provide managers with a justifiable case. This may not be so when the time budget pressure is low or moderate, in which case managers tend to cope with the pressure by resorting to RAQPs. The way seniors cope with the budget pressure (by continually increasing RAQPs) may suggest that there are difficulties for them to discuss even in extremely tight budget situations. Another explanation for the difference between the responses of managers and seniors is offered in occupational stress literature. That is, studies have shown that lower rank employees may perceive that they have little control over the work environment, which in turn may lead them to perceive a higher level of pressure when placed in demanding job situations (Fox, et al., 1993). Given that a low sense of control over the work environment is possible where employees lack decision-making power and a variety of skills or 'skill discretion' (Cooper, et al., 2001, p. 136), audit seniors, more than managers, are likely to continue to try to beat the situation by resorting to RAQPs.

The above reasoning suggests that there must be a significant difference in the perception of time budget difficulty between auditors in higher and lower ranks. The results concur this. However, the coefficient is positive indicating that auditors in

lower rank positions indeed perceive budgets as easier to attain than those in higher rank positions. Although this contradicts the hypothesised relationship, a closer examination of the results reveals that audit juniors perceive budgets as relatively easy to attain than managers and seniors and this has affected the direction of the relationship. At first sight this appears contradictory but this result is plausible. For example, as discussed above, for jobs to be highly stressful they must be highly demanding yet with little employee control over the work environment. In the case of audit juniors, jobs may not be highly demanding though they too will have very little control over the environment. Occupational stress literature shows that in this type of situations, employees perceive work to be passive, and hence, their perception of pressure is likely to be low (Cooper, et al., 2001; Fox, et al., 1993; Karasek, 1979).

The results show that auditors who work in Big-Four firms, compared with their non Big-Four counterparts, perceive time budgets as more difficult to attain. Therefore, the results are in line with the previous findings that suggest that the work environments of large accounting firms (currently, the Big-Four) are different from those of small firms (Ardoin, 1986; Kaplan, Keinath, and Walo, 2001; Patten, 1995; Soeters and Schreuder, 1988) and these differences also affect auditors' perceptions of time budget pressure. For example, Big-Four firms have been identified as having a highly competitive environment (Dalton, et al., 1997). This may make it difficult for auditors to come forward with time budget difficulties for fear of being identified as inefficient. Auditors' perceptions of job satisfaction and working conditions are shown to be better in non Big-Four firms than in Big-Four firms (Clabaugh, et al., 2000; Patten, 1995). A lower job satisfaction, for example, may contribute towards aggravating auditors' negative perceptions of time budget difficulties in Big-Four firms. In contrast, audit personnel in small firms, due to their closer contacts with each other and being under little pressure (Patten, 1995) may have a relatively more positive perception towards pressure situations than their Big-Four counterparts.

This research finds that when auditors perceive client fees to have a high impact on their time budgets, the perceived attainability of those time budgets decreased. This is in line with previous findings of both Cook and Kelley (1991) and Otley and Pierce (1996a). Similarly, Otley and Pierce (1996a) found that senior auditors, who

perceived when they had participated more in the time budget setting process, had generally more attainable time budgets. The results of this study support Otley and Pierce's (1996a) findings. These results seem to indicate that, as has been suggested in organizational theory (Hofstede, 1968), auditor participation in budget setting has positive effects on the perception of time budget attainability.

However, the current study fails to find that the audit programme has a positive effect on auditors' perception of budget attainability. Several previous studies have identified the audit programme as a possible solution to the time budget related problems. For example, Cook and Kelley (1991) argued that by linking time budgets more closely to the audit programme and not the fees expected by clients, the attainability of those time budgets should increase. Yet the current findings do not support this. The reasons for this however are not clear, and hence, the issue requires further research.

Finally, the results of this study show that auditors perceive budgets as easier to attain when these are based on last year's actual time budgets. Given that auditors in this study also admit to under reporting the time they spend on audits this result needs to be interpreted with caution. For example, relying heavily on last year's actual time when this is not accurate (due to under reporting of time) for setting time budgets is problematic. One respondent of the current study captured this problem stating:

"There is a catch 22 position regarding budgets. The partners and managers want you to charge all of your time so that they get an accurate picture of how much time is required on a particular client but at the same time there is pressure to get the job done within budget ... However, next year when they review prior year time spent, it is inaccurate and the next auditor is expected to do it in the same time." (survey participant - *Audit Senior, NZ, 2004*).

The results of the current study have several implications for auditors and audit firms in New Zealand. Firstly, the increasing incidence of dysfunctional behaviour as time budgets become less attainable is problematic, as this may have both individual and organisational consequences. To alleviate this pressure and to minimise

dysfunctional behaviour, firms must consider making time budgets reasonable. The results of the study suggest that by decoupling time budgets from audit fees, allowing participation in the time budget setting process and basing time budgets on realistic figures which are appropriate for last year, audit firms can make time budgets more attainable. Given the differences in the budget attainability perceptions of auditors holding different ranks, a caution must be exercised in relying on the firm-level controls for audit quality. For example, unlike many other studies on this issue, this study includes higher-rank audit personnel in its sample, and shows that audit managers are resorting to RAQPs. Given their supervisory role of other audit personnel on the one hand and the relatively lower supervision they are placed under on the other, the quality implications of RAQPs at manager level can be serious and yet difficult uncover.

Consequently, audit firms need to take measures to alleviate the time budget pressure in the audit work environment. The occupational stress literature provides some solutions for preventing and managing job-related pressure issues. For example, in this respect, studies have identified three types of measures – primary or preventative, secondary or reactive, and tertiary (Cooper, et al., 2001). Primary measures include attempts to reduce both the intensity and the number of stressors (Edwards and Cooper, 1990) or sources of time budget pressure. Accordingly, this involves firms providing sufficient time and freedom for auditors to conduct their work. Given that audits are always likely to be carried out under some time pressure (e.g., time deadlines), perhaps the secondary measures that include modifying responses to the time budget pressure (e.g., through training; communication) may be more appropriate for audit firms. Lastly, tertiary measures are primarily reactive (e.g., support programmes) and involve dealing with personal issues that follow auditors' exposure to the time budget pressure.

CONCLUSION

The results of this study suggest that time budgets have a significant effect on dysfunctional auditor behaviour. This relationship may have special relevance for auditors in the more junior positions and for those employed in the Big-Four audit firms. Additionally, it appears that in New Zealand, client fees negatively influence the attainability of audit time budgets, although the budget attainability is positively

influenced by participation in the time budget setting process and last year's actual time spent.

Future research needs to examine further the relationship between time budget attainability and dysfunctional auditor behaviour, especially in the audit environments of other countries. This will enable a better evaluation of the prevalence of this phenomenon in audit firms. Additionally, the significant antecedents identified in the study may also need more thorough empirical scrutiny so that remedial actions relating to the setting of time budgets can be included in the policies of audit firms. Thirdly, research that aims to learn more about the extent to which firms rely on time budgets for evaluating staff performance (as has been examined in an Irish context e.g., Sweeney and Pierce, 2004) and how this affects the auditor dysfunctional behaviour of auditors may be useful.

Finally, the occupational stress literature has identified that dysfunctional responses or strains lead to individual and organisational outcomes. Further research is needed to understand both the presence and extent of these individual (e.g., health issues, lower job satisfaction) and organisational outcomes (e.g., loss of staff, reduced audit quality, increased litigation risk). For example: Does extreme time pressure force audit personnel to move into other relatively low-pressure areas of accountancy? What are the quality consequences of dysfunctional behaviour? Does this high-pressure work environment prevent certain types of personnel (e.g., females) entering into the auditing profession? Developing hypotheses relating to these outcomes are useful for understanding fully the consequences of the time budget pressure in auditing.

Notes

1. Rhode, 1978 is cited in Commission on Auditors' Responsibilities: Report, Conclusions and Recommendations (or CAR:RCR, 1978).
2. These are also referred to as, audit quality reduction behaviour (AQRB) (Otley and Pierce, 1996a), quality threatening behaviour (QTB) (Pierce and Sweeney, 2004), and reduced audit quality (RAQ) behaviours (Coram, et al., 2003).
3. The study was carried out partly using an online software server. A pilot test was completed among 18 fourth-year accounting students enrolled at a New Zealand university to examine the reliability and ease of use of the software. The pilot test revealed that the survey software was highly reliable, and easily usable.

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APPENDIX A: Research questionnaire

(Adapted from Otley and Pierce, 1996a – the permission to use in this study was obtained from the first author)

Section One: Demographics:

Sex: Male / Female

Age:

Under 20 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 Over 60

Period working in professional accounting: _____ years

Period with current employer: _____ years

Position in current firm (choose one):

Audit Partner Audit Manager Audit Senior Audit Junior Staff Auditor

Other: _____ (please specify)

Do you work in one of the “Big Four” Accounting Firms (Deloitte, Ernst Young, KPMG or PwC)?

Yes / No

Section Two: Time Budget Pressure:

Question 1:

In general, were the time budgets for jobs you worked on in the last year (choose one):

Very easy to attain Attainable with reasonable effort Attainable with considerable effort Very tight, practically unattainable Impossible to achieve

Question 2:

How often do you achieve your time budgets? (choose one)

Nearly Always Often Sometimes Rarely Never

Question 3:

If you did not under-report time, how often would you meet your time budget? (choose one)

Nearly Always Often Sometimes Rarely Never

Question 4:

To what extent do you influence the goals and standards you are expected to achieve? (choose one)

To a very great extent To a considerable extent To some extent To a very limited extent Not at all

Question 5:

How often do you feel you have a significant influence when time budgets are being prepared for your jobs? (choose one)

Nearly Always Often Sometimes Rarely Never

Question 6:

To what extent do each of the following influence the time budgets which are set for your clients?

a) Last year's reported actual (choose one):

To a very great extent To a considerable extent To some extent To a very limited extent Not at all

b) Estimated time to complete audit programme (choose one):

To a very great extent To a considerable extent To some extent To a very limited extent Not at all

c) Fees expected by clients (choose one):

To a very great extent To a considerable extent To some extent To a very limited extent Not at all

Question 7:

In your work as auditor, do you ever sign off a required audit step not covered by another audit step, without completing the work or noting the omission of procedures? (choose one)

Nearly Always Often Sometimes Rarely Never

Question 8: During the last year, how often have you acted in the following manner when carrying out an audit? (choose one for each question)

a) **Accepted weak client explanations:**

Nearly Always Often Sometimes Rarely Never

b) **Made superficial reviews of client documents:**

Nearly Always Often Sometimes Rarely Never

c) **Failed to research an accounting principle:**

Nearly Always Often Sometimes Rarely Never

d) **Reduced the amount of work performed on an audit step below what you would consider reasonable:**

Nearly Always Often Sometimes Rarely Never

e) **Signed off an audit programme step without completing the work or noting the omission:**

Nearly Always Often Sometimes Rarely Never

Question 9: In response to tight time budgets, do you ever? (choose one for each question)

a) **Request and obtain a budget increase:**

Nearly Always Often Sometimes Rarely Never

b) **Under report time by working on personal time:**

Nearly Always Often Sometimes Rarely Never

c) **Shift time to non-chargeable:**

Nearly Always Often Sometimes Rarely Never

d) **Work harder but charge all time properly:**

Nearly Always Often Sometimes Rarely Never

e) **Reduce the quality of audit work:**

Nearly Always Often Sometimes Rarely Never

Tables and Figures

Table 1: A summary of response analysis

	Online (n =)	Postal (n =)	Total (n =)	Response Rate (%)
Total in original group	294	300	594	
<i>less duplicates</i>	(1)	-	(1)	
<i>no email address</i>	(12)	-	(12)	
<i>prior requests to exclude</i>	(6)	-	(6)	
Total sent out	275	300	575	
<i>less emails stating not relevant</i>	(16)	(4)	(20)	
Total Possible Responses	259	296	555	
Total Responses Received	124	146	270	47.0%
<i>less incomplete responses</i>	(34)	(49)	(83)	
Fully Complete Responses	90	97	187	32.5%
<i>less not public practice</i>	(19)	(17)	(36)	
Complete Usable Responses	71	80	151	26.3%

Table 2: Regression analysis (CATREG) – Time budget pressure and responses

Variables	Expected Sign	Beta	Std. Error	F	Sig. F
Regression 1: RAQPs					
Independent					
Budget attainability (H ₁)	-	-0.411	0.076	29.269	0.000
<i>[n = 151; Adj.R² = 0.134]</i>					
Regression 2: URT					
Independent					
Budget attainability (H ₂)	-	-0.465	0.074	39.407	0.000
<i>[n = 151; Adj.R² = 0.178]</i>					

Table 3: Regression analysis (CATREG) – Antecedents and time budget pressure

Variables	Expected Sign	Beta	Importance	F	Sig. F
Dependent					
Budget attainability					
Independent					
Auditor's position (H _{3A})	-	0.130	0.0021	3.228	0.025
Firm type (H _{3B})	+	0.241	0.176	12.100	0.001
Client fees (H _{3C})	-	-0.258	0.223	13.813	0.000
Audit programme (H _{3D})	+	-0.224	0.065	9.154	0.000
Last year's budget (H _{3E})	+	0.369	0.328	24.056	0.000
Budgetary participation (H _{3F})	+	0.238	0.187	10.281	0.000
<i>[Model: n = 151; Adj.R² = 0.296; F = 4.939; Sig. F = 0.000]</i>					

Figure 1: Mean incidence of RAQPs by time budget attainability levels

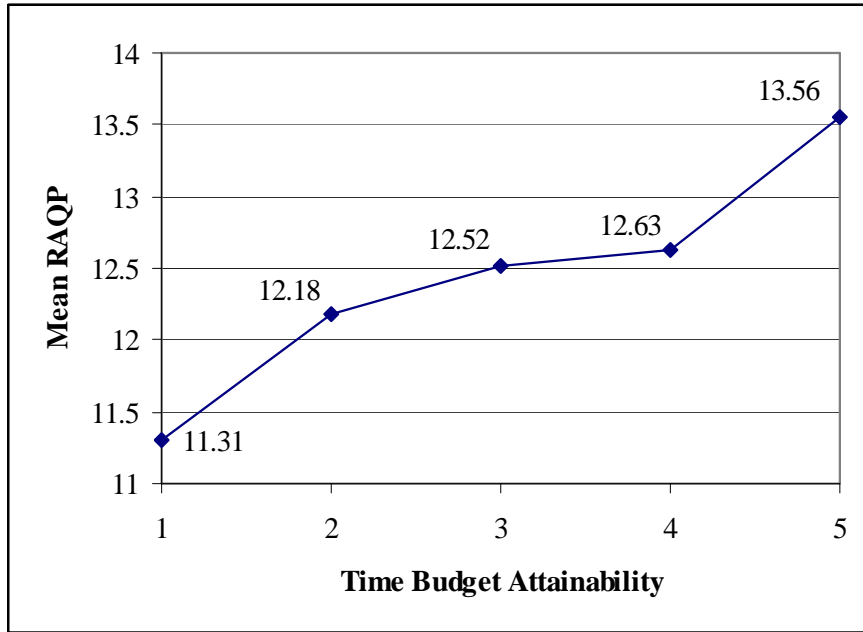


Figure 2: Mean Incidence of URT by time budget attainability levels

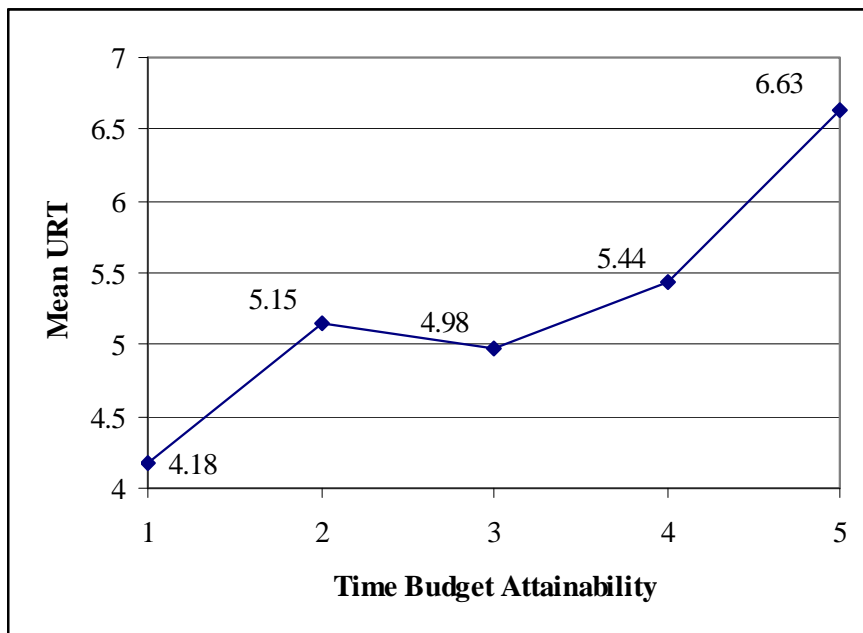


Figure 3: Comparison of mean no. of RAQP by Time Budget Attainability

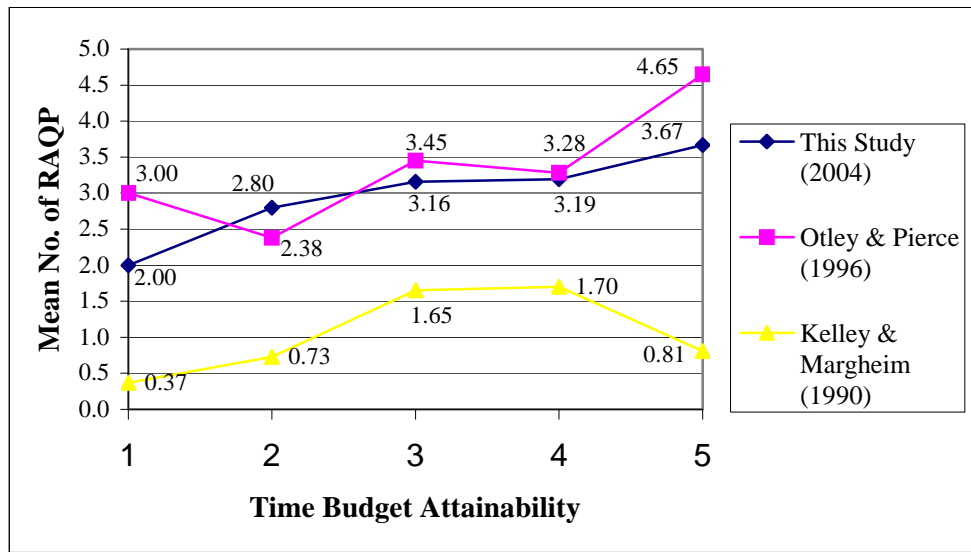


Figure 4: Audit managers' mean number of RAQP by time budget attainability

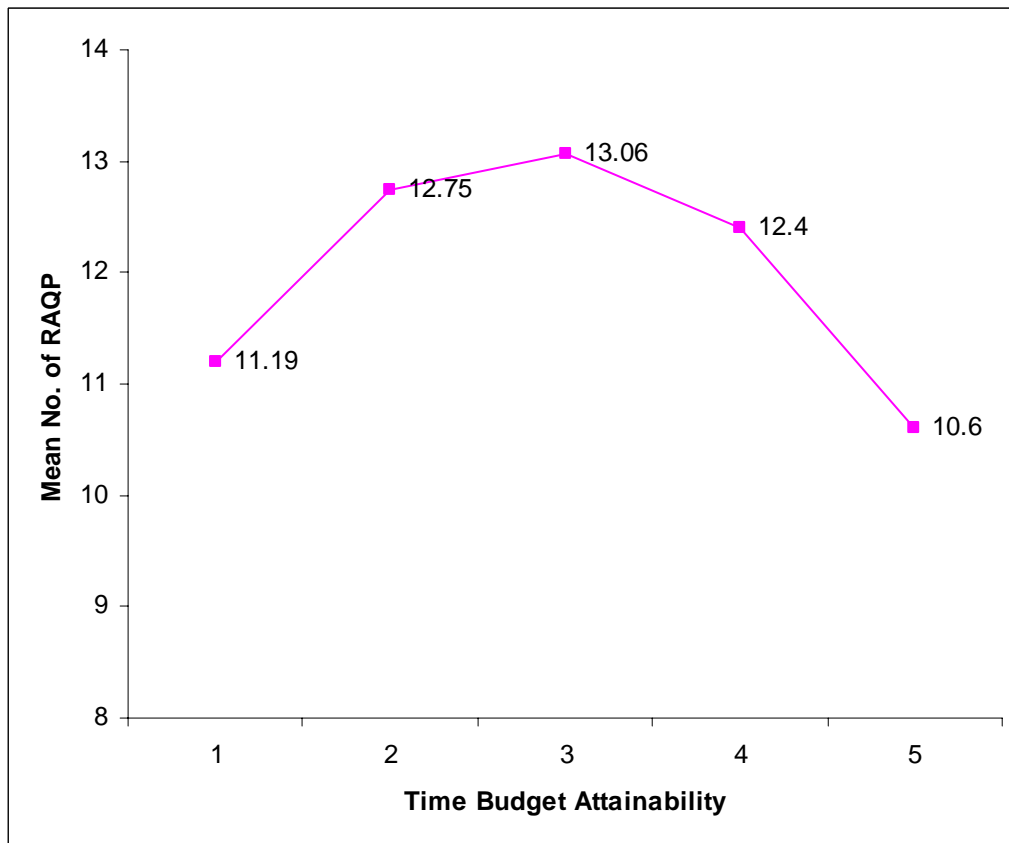


Figure 5: Audit seniors' mean number of RAQP by time budget attainability

