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Time pressure, training activities and dysfunctional auditor behavior:
evidence from small audit firms

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Time Pressure, Training Activities
and Dysfunctional Auditor Behaviour:
Evidence from Small Audit Firms

ABSTRACT

This study tests the association between time pressure, training activities and dysfunctional auditor behaviour in small audit firms. Survey responses from 235 certified auditors working in small audit firms in Sweden show that perceived time pressure is positively associated with dysfunctional auditor behaviour while the level of participation in training activities such as workshops and seminars is negatively associated with dysfunctional auditor behaviour. These findings suggest that audit quality is at risk when auditors experience high level of time pressure but also that auditors' that frequently take part in training activities to a lesser extent engage in dysfunctional auditor behaviour.

Key words

Dysfunctional auditor behaviour; time pressure; training activities; small audit firms.

INTRODUCTION

There is much attention given recently to audit quality by regulators and researchers (2014/56/EU; IAASB, 2014; Knechel *et al.*, 2013; Francis, 2011). The concept of audit quality is however difficult to define, describe and there is still little consensus on how to measure audit quality. Common approaches to measure audit quality involve earnings management indicators, restatements and auditor reporting (see Francis, 2004; Francis, 2011; Knechel *et al.*, 2013; Langli & Svanström, 2014 for reviews). If the audit process and the behaviour of auditors in the audit process are of key interest however, an alternative approach to capture dimensions of audit quality is to ask auditors about the undertaking of quality reducing acts, i.e. dysfunctional auditor behaviour.

Prior research on the determinants of dysfunctional auditor behaviour is relatively limited which suggests the need for further investigation into factors that facilitate and hinders this kind of behaviour that is difficult to detect but ultimately reduces audit quality. The existing literature has focused on time savings and time-budget achievements as the main incentives for dysfunctional behaviours (Kelley & Margheim, 1990; Coram, Ng & Woodliff, 2004; Gundry & Liyanararchchi, 2007). Dysfunctional behaviours such as signing off on an audit step or accepting weak client explanations could however be related also to a lack of sufficient competence. In this study, the association between time pressure, training activities and dysfunctional auditor behaviour is tested for a sample of small audit firms.

Faced with time-pressure, auditors can respond either functionally or dysfunctionally (DeZoort & Lord, 1997). Functional behaviour would include working harder, requesting an increase in one's time budget, using more efficient audit techniques and charging all time properly. However, due to the impact of time budgets on career development and other constraints, not all auditors will find functional behaviour a possible or desirable solution and will instead resort to types of dysfunctional behaviour (Pierce & Sweeney, 2004; Gundry &

Liyanarachchi, 2007). In contrast to prior literature, this study tests the association between time pressure and dysfunctional auditor behaviour among experienced auditors working in small audit firms where working conditions and incentives are very different from those of large audit firms (McNamara & Liyanarachchi, 2008).

There are characteristics of this setting that could have an impact on the association between time pressure and dysfunctional auditor behaviour. First, there are limited possibilities in small audit firms to delegate audit work to colleagues for the time-pressured auditor. Second, there are reasons to believe that large (Big 4) and small audit firms (non-Big 4) attract and hire individuals with different attributes and preferences (Bagley, Dalton, & Ortegren, 2012). Third, reputation concerns are unlikely to hinder dysfunctional behaviours as audit clients of small audit firms are small privately-held companies that do not typically attract attention from investors or media.

Next, the interest is on how participation in training activities is associated with dysfunctional auditor behaviour. Frequent regulatory changes in financial reporting and auditing suggest the need to regularly take part in training activities to keep updated. Lack of competence and knowledge may cause dysfunctional auditor behaviour such as accepting weak client explanations. Small audit firms have limited opportunities to arrange trainings activities such as seminars and workshops with invited experts and auditors cannot easily compensate for inadequate competence by contacting in-house expertise. However, auditors at these firms can decide to take part in different types of training activities arranged by the Professional Institute of Public Accountants in Sweden or to join other relevant courses, workshops and seminars. From existing literature, little is however known about whether participating in different types of training activities is associated with (dysfunctional) auditor behaviour and audit quality.

The data used for this study consist of survey responses from 235 certified auditors working in small audit firms in Sweden. Accordingly, respondents in this study are qualified and signing auditors and they have significant experience of audit conduct and auditor reporting which is different from most prior research where respondents were audit juniors and audit seniors with relatively limited experience (Pierce & Sweeney, 2004; Gundry & Liyanarachchi, 2007). As hypothesised, results show a positive association between perceived time pressure and dysfunctional auditor behaviour. There is a negative association reported between frequent participation in training activities such as seminars and workshops (four occasions or more in 2012) and dysfunctional auditor behaviour; however no association was found for continuous education. Findings suggest that time pressure is related to audit quality reducing practise and provides some support that participation in training activities may reduce dysfunctional auditor behaviour.

The remainder of this paper is structured as follows. The next section discusses related literature and presents the hypotheses. Data and the specification of the empirical model follows, and thereafter the results of the study are presented. The paper ends with a conclusion and discussion section.

DEVELOPMENT OF HYPOTHESES

Time pressure

Auditors constantly have to trade-off the time dedicated to auditing, with the cost of performing it (Otley & Pierce, 1996; Pierce & Sweeney, 2004; Liyanarachchi & McNamara, 2007; Ettredge, Bedard & Johnstone, 2008). The amount, nature and timing of audit procedures need to be balanced with the resources allocated for an audit. Limited resources and limited time allocated to perform necessary audit tasks, combined with the awareness that time budgets are used as a performance measurement tool in the audit firm, causes pressure among auditors

(McNamara & Liyanarachchi, 2008). Pierce and Sweeney (2004) found that time pressure has increased in audit firms and is far higher than optimal. In the Swedish audit setting, the large number of assignments held by the average auditor may add to the level of perceived time pressure and could ultimately impact audit quality. Sundgren and Svanström (2014) found a negative association between the number of assignments and going concern reporting accuracy.

Appointments to partner and manager levels are usually internal promotions based on performance ratings and time-budget achievements. Evidence also suggests that an unwillingness to put in unreported and unpaid overtime may severely damage an individual's career prospects. This pressure is argued to be exacerbated by employees' reluctance to discuss budget problems with their superiors for fear of being seen as incompetent (McNair, 1991). Promotion as incentive for dysfunctional behaviour is however not relevant for all auditors in this sample. The auditors studied already have their own client portfolio and some of them are also partners while others are working to achieve partnership in the future. One should also note that moderate levels of pressure can improve auditors' performance due to increase focus on the task, decreased attention to irrelevant information and increased work efficiency (DeZoort, 1998).

In general, time pressure has been shown to have a detrimental impact on individuals' decision-making ability (Edland & Svenson, 1987). The reported use of time budgets in audit firms also raises concerns about the audit work performed, and research shows that time-budget pressure leads to less effective gathering of audit evidence (Kelley & Margheim, 1990; Otley & Pierce, 1996; Coram *et al.* 2004; Pierce & Sweeney, 2004; Gundry & Liyanarachchi, 2007). The audit literature distinguishes between time budget pressure and time deadline pressure. Time budget pressure refers to when the auditor firm allocates inadequate amounts of hours to complete specified procedures while time deadline pressure arises when it is difficult for the auditor to complete work by a required deadline. However, these concepts are closely related

and the distinction is most relevant for the concept of underreporting of time. The distinction is also less relevant for certified auditors in small audit firms auditing private companies where reporting to superiors are more uncommon and where deadlines are fewer. The concept used in this study is time pressure which then refers to both time budget pressure and team deadline pressure.

The audit process requires sufficient audit effort, and with less than necessary time spent on the collection and evaluation of evidence, the quality of audit procedures is arguable negatively affected. When audit effort is lower, abnormal accruals are found to be greater and clients are then more likely to manage their earnings upwards to beat their earnings benchmark (Caramanis & Lennox, 2008). Recent studies on audit quality have found a negative association between the number of audit assignments and going concern reporting accuracy, implying that having too much to do negatively influences audit quality (Goodwin, 2012; Sundgren & Svanström, 2014).

Previous research on dysfunctional behaviour has linked time pressure to various types of audit quality reducing actions such as premature signing off on an audit program step (Rhode, 1978; Alderman & Dietrick, 1982; Otley & Pierce, 1996; Pierce & Sweeney, 2004; Gundry & Liyanarachchi, 2007), making superficial reviews of client documents (Kelley & Margheim, 1990; Otley & Pierce, 1996; Pierce & Sweeney, 2004), failing to research on an accounting principle (Kelley & Margheim, 1990; McNair, 1991; Otley & Pierce, 1996; Pierce & Sweeney, 2004) and rejecting awkward-looking items from a sample (Coram, Ng, & Woodliff, 2003).

The time-pressured auditor will have to prioritise time saving actions and could therefore be expected to minimize (extensive) audit steps and procedures and is also likely to accept weak client explanations and to put more trust in the audit client than is reasonable. Based on the above, the following hypothesis is formulated:

H1: Time pressure is positively associated with dysfunctional auditor behaviour.

Training activities

Learning through education and training has the potential to increase individuals' abilities and knowledge but it also influences behaviors, values and attitudes (Shephard, 2008). Learning outcomes in the affective domain includes at the highest level the commitment to principled practice on a day-to-day basis and a willingness to revise judgment and change behavior in case of new evidence (Bloom, Hastings, & Madaus, 1971). Work experience basically generate knowledge that is specific to the situation, while theoretical and formal education instead brings conceptual and general knowledge that affects behavior and could be applied in different situations (Cutler & Lleras-Muney, 2010).

There is empirical support for education having an impact on the auditor in several ways. Education influences the way in which the auditor perceives his or her role as an auditor (Monroe & Woodliff, 1993; Grambling, Schatzberg & Wallace, 1996; Ferguson, Richardson & Wines, 2000) as well as auditors' moral reasoning and ethical values (Eynon, Hill & Stevens, 1997; Pierce & Sweeney, 2010; Saat, Porter & Woodbine, 2012). The level of education has also been linked to auditor behavior and audit quality in recent studies (Gul, Wu and Yang, 2013; Chen *et al.* 2013).

Importantly, it is not only formal education spanning over several years in younger ages that impacts individuals' behavior. Evidence suggests that training activities such as workshops and seminar in various professions may also lead to behavioral changes. Sparks (1986) studied teachers participating in training activities (four workshops lasting 2.5 hours each) that involved observations and coaching and she documented both short-term and long-term changes in teaching behavior. Miller and Mount (2001) studied 22 counselors in Washington County and found that self-reported behavior changed dramatically after taking part in a two-day workshop

on motivational interviewing. Observational measures from the follow up study four month after the workshop had taken place indicated more modest changes in practice and clients did not report on a response change. Finally, Davis *et al.* (1999) studied major research publications between 1993 and 1999 and found some evidence that continuing medical education is associated with the effective changing of physician performance.

To become a certified auditor in Sweden, the requirement is a minimum of three years of relevant theoretical education at university level and a minimum of five year of relevant practice. The certified auditor is required to take part in a minimum of 120 hours of continuous education over a three year period to remain licensed. In addition, auditors may take part in various internal and external courses, seminars and workshops. Large audit firms arrange with seminars so that experts can come in and present on new or updated standards, laws, guidelines, techniques and programs on a regular basis, e.g. lunch meetings. However, small audit firms have limited opportunities to arrange such training activities. The Professional Institute of Certified Public Accountants, FAR, arrange training activities that are open for all certified auditors in Sweden ranging from formal courses over several weeks to seminars, workshops and a two-day industry gathering. There are also a broad range of various courses and seminars that may be relevant to auditors that are arranged by different organizations.

The benefit from taking part in training activities is two-folded. The auditor are better able to keep updated with the latest in the field but also, being challenged by others under a seminar or similar improves an auditor's motivation and facilitates learning and quality improvements. Discussions with colleagues in the profession and outside experts are especially important for competence development among auditors working in small audit firms with typically more limited such contacts. Based on the above, participation in training activities that includes seminar and workshop attendance but also formal continuous education should reduce

the undertaking of dysfunctional auditor behaviour and the following hypothesis is therefore formulated:

***H2:** Participation in training activities is negatively associated with dysfunctional auditor behaviour.*

DATA AND MODEL SPECIFICATION

Data

The Swedish audit market consists of over 900 audit firms but is still dominated by the Big 4 audit firms. The vast majority of audit firms are small and without any international partners. This group of audit firms includes sole proprietorships and firms with just a few certified auditors. There are 3,920 certified auditors (as of December 2012), of whom 1,943 (49.6 %) are employed by the Big 4 audit firms.

The data used in this study are based on survey responses from 235 certified auditors working in small audit firms in Sweden. A complete list of the email addresses of all certified auditors in Sweden was received from the Supervisory Board of Public Accountants (SBPA). A Web-based survey in Swedish was sent out on 20th of March 2013 to a total of 1,307 certified auditors. Auditors working at the largest audit firms in Sweden were excluded.¹ Eighty emails were found to be inactive and 25 emails returned automatic replies indicating that the respondent was unavailable due to leave of absence, vacation, etc. A reminder was sent out on 27th of March 2013. Finally, a total of 235 usable responses were received, which is equal to a response rate of 18.0%. Respondents were informed that responses were fully anonymous.

The survey sent out to the auditors included first some general questions on respondents' background and then a broad range of questions related to what different activities they take part in, frequency of dysfunctional auditor behaviour (see Kelley and Margheim 1990; Malone & Roberts 1996; Pierce and Sweeney 2004), perceived time pressure, stress factors and

perception of the current regulatory environment. Respondents needed to respond to all questions in order to complete the survey. All of the questions included in the survey were pre-tested on nine certified auditors.

Model specification

This study investigates the relationship between dysfunctional auditor behaviour and i) time pressure, and ii) training activities. DYSFUNCTIONAL and TP are measures of ordinal-level data based on survey responses to statements on a five-digit (likert) scale. Two different measures, TRAINING and CONTEDU, are used for training activities. These are both indicator variables that indicate the level of participation in courses, workshops and seminars and continuous education respectively. The use of categorical and ordinal scaled variables makes categorical regression with optimal scaling suitable for the multivariate data analysis and the following model are run to test the hypotheses (variables are defined in Table 1):

$$\begin{aligned} \text{DYSFUNCTIONAL} = & \beta_0 + \beta_1 \text{TP} + \beta_2 \text{TRAINING} + \beta_3 \text{CONTEDU} + \beta_4 \text{JOBUNDERSTANDING} + \\ & + \beta_5 \text{CLIENTDIALOUGE} + \beta_6 \text{APPRAISAL} + \beta_7 \text{PARTICIPATION} + \beta_8 \text{FIRMSIZE} + \beta_9 \text{FEMALE} \\ & + \beta_{10} \text{EXPERIENCE} + \beta_{11} \text{BIG4EXP} + \beta_{12} \text{NUMBCLIENTS} + \varepsilon \end{aligned} \quad (1)$$

[Insert Table 1 about here]

The dependent variables used in the models reported are DYSFUNCTIONAL which is the sum of responses to five statements which most of them have been frequently used in previous research on dysfunctional auditor behaviour (see Kelley & Margheim, 1990; Otley & Pierce, 1996; Malone & Roberts, 1996; Herrbach, 2001; Pierce & Sweeney, 2004; Gundry & Liyancharchchi, 2007; Coram *et al.* 2008).² TP is the measure used to test the first hypothesis. TP captures respondent's perception of time pressure, and similar statements have been used in previous audit research (see Kelley & Margheim, 1990; Coram *et al.*, 2003; Gundry &

Liyancharchchi, 2007). As mentioned earlier, TP do not distinguish between time budget pressure and time deadline pressure as in some of the previous research (see Pierce & Sweeney 2004; Gundry & Liyancharchchi, 2007).

TRAINING and CONTEDU are used to test the second hypotheses on the association between training activities and dysfunctional auditor behaviour. TRAINING measures whether the auditor participated in different training activities such as workshops, seminars and industry gatherings on four occasions per year or more in 2012. These types of activities are arranged by the professional institute but also by other organizations and companies and participation indicate a willingness to learn new things and to improve as an auditor. CONTEDU instead measures the level of participation in continuous education. More than 100 courses each year within the areas of tax, accounting, auditing, law and controlling are arranged as continuous education by the professional institute FAR. CONTEDU distinguishes between those that spend 50 hours over or more on continuous education in 2012 and those that do not. 50 hours is more than what is yearly required to remain licensed.

The control variables included in the model is discussed below. Role ambiguity is related to understanding job tasks and has been associated with less efficient performance (Rizzo, House, & Lirtzman 1970; Ahmad & Taylor, 2009; Eatough, Way, and Chang, 2011). In this study, JOBUNDERSTANDING is included to control for the degree that job tasks are understandable. Communication with the client is one common way of gathering audit evidence (ISA 500, p. A22) and the process of communicating and negotiating with the client is crucial for resolving audit issues and the audit outcome (Beattie, Fearnley, & Brandt, 2004; Gibbins, Salterio, & Webb, 2001). CLIENTDIALOGUE measures the extent to which the auditor has a clear dialogue with audit client on the work to be undertaken. There are multiple sources of job-related stress that could impact auditor behaviour. Evidence has shown that a lack of a performance appraisal and participation in decision-making are associated with job stress

(Schaufeli & Peeters, 2000; Slate & Vogel, 1997). APPRAISAL and PARTICIPATION are included to control for the level of praise received from clients and colleagues and the level of individual participation in the organising of the audit on dysfunctional auditor behaviour.

This study includes only responses from auditors working in small firms. However, there may also be differences in audit quality within this category (see Sundgren & Svanström, 2013). By including FIRMSIZE we control for the possible effect of audit firm size on dysfunctional auditor behaviour. Findings suggest there are differences in auditor reporting quality between men and women (Ittonen, Vähämaa, & Vähämaa, 2013; Karjalainen, Niskanen & Niskanen, 2013) and FEMALE is included to control for this potential variation. Experience could influence auditor behaviour (Sormunen *et al.* 2013; Sundgren & Svanström, 2013). EXPERIENCE is included to control for number of years as a certified auditor. The working environment with regard to learning opportunities and internal review systems is very different in Big 4 audit firms compared with non-Big 4 audit firms (Kaplan, Keinath, & Walo, 2001). To control for whether respondents' have past experiences of Big 4 audit firm practices, BIG4EXP is included. Finally, recent studies have found a negative association between the number of audit assignments and auditor reporting accuracy suggesting that overcommitted auditors are shortcutting audit procedures and producing lower audit quality than are other auditors (Sundgren & Svanström, 2014). NUMBCLIENTS is included in the model to control for this.

RESULTS

Descriptive statistics

Panel A in Table 2 presents descriptive statistics over the frequency of dysfunctional auditor behaviour. Importantly, the figures show that various types of dysfunctional behaviour do occur on occasions among auditors in small audit firms in Sweden, but it is not very frequent.

More than 50% of respondents indicate that they at least a few times per year make superficial reviews, put greater trust in the audit client than reasonable, incorrectly sign off audit steps, prematurely sign off audit steps and accept weak client explanations. The frequencies reported are relatively similar for the different types of dysfunctional behaviour. The behaviour that takes place somewhat more frequently than the others is accepting weak client explanations. About 20% of auditors' state that they do accept weak client explanations a few times each quarter or more frequently while this proportion is less than 10% for the other types of dysfunctional behaviour.

Panel B in Table 2 presents descriptive statistics for statements related to perceived time pressure and participation in training activities. On a scale of one ("disagree completely") to five ("agree completely"), the mean values reported are 2.66 for 'preferring wider time frames for job tasks' and 2.51 for 'difficulty completing job tasks within the time frames given'. More in detail, 46% of the respondents did not prefer wider time frames for job tasks (responded 1 or 2), 30% were neutral to the statement (responded 3) and 24% preferred wider time frames (responded 4 or 5). The distribution was relatively similar for difficulty in completing job tasks. These descriptive statistics illustrate a somewhat mixed picture with regard to perceived time pressure. While time pressure is a problem for a group of auditors working in small audit firms in Sweden, this is however not the situation for the majority of them.

Auditors can take part in different training activities and dependent upon their interest in competence development, they will take different use of this opportunity. In 2012, 28% of respondents participated in training activities such as seminars, workshops and industry gatherings on one to three occasions while 47% participated on four to seven occasions and finally another 25% participated on more than seven occasions. Figures suggest that there is one group of auditors that is relatively inactive and participates to a low extent in these activities while a somewhat larger group of auditors is more active and take part in multiple activities.

The majority of respondents, 53%, spent 25-50 hours on continuous education in 2012. Finding many auditors in that range is not unexpected since 40 hours per year will give the minimum requirement of 120 hours per three year period. Seven percent of respondents spent less than 25 hours in 2012 while 26% spent between 51 and 75 hours and 15% spent more than 75 hours. These figures suggest that around 40% of auditors take more frequently part in continuous education than what is required on a yearly basis.

Panel C in Table 2 presents the descriptive statistics for the dependent and independent variables included in the regression model specified above. DYSFUNCTIONAL is measured from low levels (5 is minimum) to high levels (25 is maximum) and have a mean value of 8.51. The mean value is 9.79 for auditors that report high levels of time pressure (TP score is between 7 and 10), 8.40 for auditors that report medium levels of time pressure (TP score is 5 or 6), and 7.85 for auditors that report low levels of time pressure (TP score is between 2 and 4). The differences in means between auditors that report high time pressure and the other groups are statistically significant (p -value < 0.001). The mean value of DYSFUNCTIONAL is 8.31 for auditors that participated in training activities on four occasions or more per year and significantly higher at 9.03 for those auditors that did not (p -value is 0.043 for a t-test of differences in means). The mean value of DYSFUNCTIONAL is 8.40 for auditors that took more than 50 hours in continuous education in 2012 and only somewhat higher at 8.59 for auditors that took 50 hours or less (p -value is 0.559).

Turning to the control variables, JOBUNDERSTANDING and CLIENTDIALOGUE are measured on a scale from low (1) to high (5) levels and mean values of 4.32 and 4.17 respectively indicate that auditors to a high degree perceive that they understand job tasks and have a good dialogue with clients regarding what to do. APPRAISAL is measured from low to high (2 to 10) and a mean value of 6.54 implies that respondents are given some, but not excessive, praise for their work. There are 74 females (31 %) among the respondents and 120

of the respondents (50 %) had previously worked at a Big 4 audit firm. Respondents are in general experienced as they have worked as a certified auditor for an average of 19.76 years (median 20) and hold 112 audit assignments (median is 100). The auditors' work at audit firms employing from one up to 150 individuals with a mean (medium) number of 10 (6) employees. The office size (not reported) varies from 1 to 42 with a mean (median) of 8 (6) implying that the vast majority of auditors work in audit firms that have only one audit office.

[Insert Table 2 about here]

The correlations between the independent variables are low (not reported). The highest correlation is between TRAINING and CONTEU with a significant correlation of 0.340 indicating that auditors that spend many hours on continuous education also are the ones that take in other training activities to a large extent. Interestingly, the correlation between TP and TRAINING is low (0.019) implying that perceived time pressure is not strongly related to the participation in training activities. The Cronbach Alpha for DYSFUNCTIONAL and TP is 0.773 and 0.819 respectively, thus indicating high reliability for these constructs.

Multiple regression analysis

Table 3 reports the results from the categorical regression with DYSFUNCTIONAL as the dependent variable. The model show positive and significant coefficients for TP (sig. < 0.001), thus supporting H1. TRAINING has negative and significant coefficients (sig. 0.007) but CONTEU is insignificantly related to dysfunctional auditor behaviour. Results provide partial support for H2 on a negative association between training activities and dysfunctional auditor behaviour. The model is statistically significant with an adjusted R-square of 0.196.

JOBUNDERSTANDING is negative and significant (sig 0.001) suggesting that auditors having difficulties in understanding job tasks behave dysfunctional to a larger extent than other auditors. The other control variables reported have insignificant coefficients.

[Insert Table 3 about here]

Additional analyses

The dependent variable used in the main regressions is DYSFUNCTIONAL. This variable is the sum of five different statements on (dysfunctional) auditor behaviour. To gain further insight into the relationship between test variables and different types of dysfunctional auditor behaviour, the regression was re-run by one by one replacing DYSFUNCTIONAL with each of the individual statements “making superficial reviews of client documents”, “incorrectly signing off on an audit step”, “premature signing-off on an audit step”, “accepting weak client explanations”, and “putting a greater level of trust in the audit client than is reasonable”. These regressions show a positive association for TP that was significant at least at the 5% level for all five statements. TRAINING was negative for all five statements, but only significant for “premature signing-off on an audit step” (sig. 0.004). CONTEU was insignificant for all five statements.

To further investigate the relationship between dysfunctional auditor behaviour and the test variables, TP was categorised as high, medium and low.³ The regression was then re-run with TPLOW in the reference category. The regression shows a positive and significant coefficient for TPHIGH (sig. < 0.001), while the coefficient of TPMEDIUM was positive but insignificant (sig. 0.589). Next, TRAINING was categorized into high, medium and low.⁴ Regressions with TRAININGLOW in the reference category show negative coefficients for TRAININGHIGH and TRAININGMED (sig.0.062 and 0.014 respectively). Finally, CONTEU was categorized into high, medium and low.⁵ Regressions with CONTEULOW in the reference category show insignificant coefficients for CONTEUHIGH and

CONTEDUMED. These additional analysis imply that the positive association between TP and DYSFUNCTIONAL is driven mainly by respondents' perceiving high levels of time pressure. The negative association between TRAINING and DYSFUNCTIONAL seems to be driven by those auditors that to a low extent take part in training activities (no significant difference was found between TRAININGHIGH and TRAININGMED).

CONCLUSION AND DISCUSSION

There is an extensive literature on determinants of audit quality (see Francis, 2011; Knechel *et al.*, 2013) and prior studies have identified an association between time pressure and dysfunctional auditor behaviour (Coram *et al.*, 2003; Pierce & Sweeney, 2004; Gundry & Liyanarachchi, 2007). This association is further supported by findings reported in this study which in contrast to most prior research analyses perceptions of certified auditors that work in small audit firms. These auditors is of great interest since small audit firms have a large market share in audits of private companies and since their (dysfunctional) behaviour is less likely to be revealed and corrected in internal review procedures. Additional analyses shows that time pressure have serious negative consequences for a broad range of different types of dysfunctional auditor behaviour. Results reported show that the majority of auditors do not feel that they need more time for their duties. However, findings from the regression analysis suggests that time pressure is still a concern in small audit firms since audit quality appears to be at risk when auditors become (highly) time-pressured. These findings further implies that small audit firms needs to find efficient ways of reducing time pressure in order to minimize various types of dysfunctional auditor behaviour.

There are however other important factors that could either facilitate or hinder the frequency of dysfunctional auditor behaviour that has not gained attention in previous research. While general experience and industry expertise have been linked to audit quality, the value of

training activities and continuous education in improving audit practice has received little attention in the literature. Findings in this study show that those auditors that more frequently take part in training activities such as seminars and industry gatherings to a lesser extent than those that do not engage in dysfunctional behaviour. It is however unclear whether training activities lead to less dysfunctional auditor behaviour or whether those auditors that participate in training activities in general are more concerned with avoiding dysfunctional auditor behaviour. Alternatively, individuals who engage frequently in greater training may be more committed to the firm and therefore engage less in dysfunctional behaviour. The lack of support for participation in continuous education weakens the overall evidence for training activities being associated with dysfunctional auditor behaviour.

There are several important limitations to this study. First, there is a risk that gathered data include inaccurate and dishonest responses. This is an inherent problem in all survey research but the nature of the questions with regard to dysfunctional behaviour may add to the risk that respondents underreport undesirable behaviour. Since it is somewhat unclear to what extent dysfunctional auditor behaviour captures such behaviours that are directly harmful for audit quality, results should be interpreted with caution. Second, the key variables of dysfunctional behaviour and time pressure are measured somewhat differently from some of the prior studies and a couple of the control variables are weak as they are only single-item measures. Third, the generalizability of findings is limited to small audit firms operating in environments similar to that of Sweden.

Future research in this field could be directed at identifying important determinants of dysfunctional auditor behaviour such as different types of training activities and educational background. Research to gain further insights into the dysfunctional behaviours of auditors could include the role of the audit team and here the use of various methods should be encouraged, including field work and other qualitative approaches.

NOTES

¹ Auditors working at any of the following audit firms were excluded: PwC, Ernst & Young (EY), KPMG, Deloitte, BDO, Grant Thornton, Baker Tilly, Mazars SET, Frejs, LR Revision, Allegretto Revision, Moore Stephens and Riksrevisionen.

² Four out of the five statements used in this study have been used in prior studies (and are direct translations from English to Swedish). Moreover, this study uses “incorrectly signing off” while previous papers have used false sign off (Malone & Roberts 1996), failure to complete procedures (Pierce & Sweeney 2004) or failure to research accounting principles (Kelley & Margheim 1990; Otley & Pierce 1996) to capture some of the same aspects.

³ TPHIGH takes the value 1 if the score is between 7 and 10, and 0 otherwise while TPMEDIUM takes the value 1 if the score is between 5 and 6, and 0 otherwise. TPLOW takes the value 1 if the score is between 2 and 4, and 0 otherwise. TPHIGH is 1 for 24.0% of the auditors, TPMEDIUM is 1 for 36.1% of the auditors and TPLOW is 1 for 40.0% of the auditors.

⁴ TRAININGHIGH is 1 if the auditor participated in training activities on seven or more occasions in 2012, and 0 otherwise. TRAININGMEDIUM is 1 if the auditor participated in training activities on four to six occasions in 2012, and 0 otherwise. TRAININGLOW is 1 if the auditor participated in training activities on one to three occasions in 2012, and 0 otherwise. TRAININGHIGH is 1 for 25.2% of the auditors, TRAININGMEDIUM is 1 for 46.6% of the auditors and TRAININGLOW is 1 for 28.2% of the auditors.

⁵ CONTEHIGH is 1 if the auditor spent more than 50 hours on continuous education in 2012, and 0 otherwise. CONTEMED is 1 if the auditor spent 25 to 50 hours on continuous education in 2012, and 0 otherwise. CONTELOW is 1 if the auditor spent less than 25 hours on continuous education in 2012. CONTEHIGH is 1 for 40.3% of the auditors, CONTEMED is 1 for 52.9% of auditors, and CONTELOW is 1 for 6.7% of the auditors.

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TABLE 1 Definition of dependent and independent variables

Variable	Definition/measurement
DYSFUNCTIONAL	A score taking a value from 5 to 25 based on responses to the following six statements (from “never”=1, to “a few times a week”=5): i) making superficial reviews of client documents, ii) incorrectly signing off on an audit step, iii) premature signing-off on an audit step, iv) accepting weak client explanations, and v) putting a greater level of trust in the audit client than is reasonable.
TP	A score taking a value from 2 to 10 based on responses to the following three statements (from 1=“disagree completely” to 5=“agree completely”): i) preferring wider time frames for job tasks, and ii) difficulty completing job tasks within the time frames given.
TRAINING	An indicator variable taking the value 1 if the respondent has taken part in four or more trainings activities such as seminars, workshops and industry gatherings in 2012, and 0 otherwise.
CONTEDU	An indicator variable taking the value 1 if the respondent has spent more than 50 hours on continuous education in 2012, and 0 otherwise.
JOBUNDERSTANDING	Respondents response to the statement ‘I always understand my job tasks completely’ (from 1=“disagree completely” to 5=“agree completely”).
CLIENTDIALOGUE	Respondents response to the statement ‘I have a good dialogue with the client about what to do’ (from 1=“disagree completely” to 5=“agree completely”).
APPRAISAL	A score taking a value from 2 to 10 based on responses to the following two statements (from 1=“disagree completely” to 5=“agree completely”): i) I often receive praise from audit clients, ii) I often receive praise from colleagues.
PARTICIPATION	A score taking a value from 2 to 10 based on responses to the following two statements (from 1=“disagree completely” to 5=“agree completely”): i) I feel involved in the organising of the audit, ii) I can influence how work is organised.
FIRMSIZE	Number of full-time employees (at the audit firm).
FEMALE	An indicator variable taking the value 1 if the respondent is female; and 0 otherwise.
EXPERIENCE	Number of years working as a certified auditor.
BIG4EXP	An indicator variable taking the value 1 if the respondent has previously worked for a Big 4 audit firm, and 0 otherwise.

NUMBCLIENTS

Number of audit assignments held by the respondent in 2012.

TABLE 2

Panel A: Frequency of dysfunctional auditor behaviour

Types of dysfunctional behaviour (percentage of respondents)	Never	A few times per year	A few times each quarter	A few times per month	A few times per week
Superficial reviews	47.1	49.6	2.5	0.8	0
Incorrectly signing off	37.8	54.6	6.7	0.8	0
Pre-mature signing off	37.0	53.4	8.0	1.7	0
Accepting weak client explanations	38.7	56.7	3.8	0.8	0
Putting a greater level of trust in the audit client than is reasonable	42.6	36.7	16.5	3.4	0.8

Panel B: Time Pressure and training indicators

TP INDICATORS (Percentage of respondents)						
1=completely disagree 5=completely agree	1	2	3	4	5	Mean
Preferring wider time frames for job tasks	20.6	25.6	30.3	14.7	8.8	2.66
Difficulty completing job tasks within the time frames given	20.2	31.1	31.1	12.6	5.0	2.51
TRAINING (Percentage of respondents)						
	1-3	4-6	7-9	10-12	13-	
Number of training activities such as seminars, industry gatherings etc. in 2012	28.2	46.6	16.0	5.0	4.2	
CONTEDU (Percentage of respondents)						
	0-25	26-50	51-75	76-100	101-	
Number of hours spent on continuous education in 2012	6.7	52.9	25.6	13.4	1.3	

Panel C: Descriptive statistics for dependent and independent variables

	Mean	Median	Standard deviation	Min.	Max.
DYSFUNCTIONAL	8.51	9	2.47	5	20
TP	5.17	8	2.62	3	15
TRAINING	71.80 %				
CONTEДУ	40.30 %				
JOBUNDERSTANDING	4.32	5	0.92	1	5
CLIENTDIALOGUE	4.17	4	0.77	2	5
APPRAISAL	6.54	7	1.66	2	10
PARTICIPATION	9.34	10	1.28	4	10
FIRMSIZE	9.96	6	14.26	1	150
FEMALE	31.09 %				
EXPERIENCE	19.76	20	10.66	1	62
BIG4EXP	50.42 %				
NUMBCLIENTS	112.14	100	71.03	0	300

DYSFUNCTIONAL= A score that take a value from 5 to 25 based on responses to the statements specified.) making superficial reviews of client documents, ii) incorrectly signing off on an audit step, iii) premature signing-off on an audit step, iv) Accepting weak client explanations, and v) putting a greater level of trust in the audit client than is reasonable.

TP = A score taking a value from 2 to 10 based on responses to the following three statements (from 1="disagree completely" to 5="agree completely"): i) preferring wider time frames for job tasks, ii) difficulty in completing job tasks within the time frames given.

TRAINING = An indicator variable taking the value 1 if the respondent has taken part in four or more trainings activities such as seminars, industry gatherings in 2012, and 0 otherwise

CONTEДУ= An indicator variable taking the value 1 if the respondent has spent more than 50 hours on continuous education in 2012, and 0 otherwise.

JOBUNDERSTANDING= Respondents response to the statement 'I always understand my job tasks completely' (from 1="disagree completely" to 5="agree completely").

CLIENTDIALOGUE= Respondents response to the statement 'I have a good dialogue with the client about what to do' (from 1="disagree completely" to 5="agree completely").

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APPRAISAL: A score taking a value from 2 to 10 based on responses to the following two statements (from 1=“disagree completely” to 5=“agree completely”): i) I often receive praise from audit clients, ii) I often receive praise from colleagues.

PARTICIPATION: A score taking a value from 2 to 10 based on responses to the following two statements (from 1=“disagree completely” to 5=“agree completely”): i) I feel involved in the organizing of the audit, ii) I can influence how work is organised.

FIRMSIZE= Number of full-time employees (at the audit firm).

FEMALE = An indicator variable taking the value 1 if the respondent is female, and 0 otherwise.

EXPERIENCE = Number of years working as a certified auditor.

BIG4EXP = An indicator variable taking the value 1 if the respondent has previously worked for a Big 4 audit firm, and 0 otherwise.

CONTEDU= An indicator variable taking the value 1 if respondents have spent more than 50 hours on continuous education in 2012, and 0 otherwise.

SEMINARS = An indicator variable taking the value 1 if the respondent have taken part in seven or more internal and external seminars, workshops etc. in 2012, and 0 otherwise.

NUMBCLIENTS= Number of audit assignments held by the auditor in 2012.

TABLE 3

Categorical Regression with Optimal Scaling (CATREG) on DYSFUNCTIONAL

	Beta	F	Sig.
TP	0.295	16.184	<0.001
TRAINING	-0.166	5.118	0.007
CONTEДУ	0.066	0.741	0.478
JOBUNDERSTANDING	-0.243	8.437	0.001
CLIENTDIALOGUE	-0.145	1.814	0.179
APPRAISAL	0.113	1.167	0.323
PARTICIPATION	0.092	0.480	0.489
FIRMSIZE	-0.080	1.343	0.248
FEMALE	-0.097	2.169	0.117
EXPERIENCE	-0.010	0.021	0.884
BIG4EXP	0.063	1.343	0.236
NUMBCLIENTS	0.107	1.970	0.162
<i>N</i>	235		
<i>Model F-value</i>	3.732		
<i>(sig.)</i>	<0.001		
<i>Adjusted R-square</i>	0.196		

DYSFUNCTIONAL= A score that take a value from 5 to 25 based on responses to the statements specified.) making superficial reviews of client documents, ii) incorrectly signing off on an audit step, iii) premature signing-off on an audit step, iv) Accepting weak client explanations, and v) putting a greater level of trust in the audit client than is reasonable.

TP = A score taking a value from 2 to 10 based on responses to the following three statements (from 1="disagree completely" to 5="agree completely"): i) preferring wider time frames for job tasks, ii) difficulty in completing job tasks within the time frames given.

TRAINING = An indicator variable taking the value 1 if the respondent has taken part in four or more trainings activities such as seminars, industry gatherings in 2012, and 0 otherwise

CONTEДУ= An indicator variable taking the value 1 if the respondent has spent more than 50 hours on continuous education in 2012, and 0 otherwise.

JOBUNDERSTANDING= Respondents response to the statement 'I always understand my job tasks completely' (from 1="disagree completely" to 5="agree completely").

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i) I feel involved in the organizing of the audit, ii) I can influence how work is organised.

FIRMSIZE= Number of full-time employees (at the audit firm).

FEMALE = An indicator variable taking the value 1 if the respondent is female, and 0 otherwise.

EXPERIENCE = Number of years working as a certified auditor.

BIG4EXP = An indicator variable taking the value 1 if the respondent has previously worked for a Big 4 audit firm, and 0 otherwise.

SEMINARS = An indicator variable taking the value 1 if the respondent have taken part in seven or more internal and external seminars, workshops etc. in 2012, and 0 otherwise.

NUMBCLIENTS= Number of audit assignments held by the auditor in 2012.