

Audit team equality and audit quality threatening behaviour

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Abstract

Purpose – This paper aims to examine the association between audit quality threatening behaviour (AQTB) and three team equality dimensions: deindividuation, social identity and gender equality. Discrimination among auditors has been experienced in accounting firms across the world, which can lead to behaviour that risks the quality of work. The negative influence of this behaviour can have consequences for clients, audit firms, regulators and the wider society due to the threat on audit quality.

Design/methodology/approach – A questionnaire was conducted at a Big 4 audit firm in Sweden. Members of audit teams that worked together on one specific engagement were asked to give their perceptions of their experience of equality and behaviours within the team. Hypotheses were tested using ordered logistic regression and partial least squares structural equation model.

Findings – Audit teams that experience deindividuation conduct more AQTBs and audit teams with higher social identity conduct less AQTBs. However, the audit team's social identity can moderate the audit teams' experience with deindividuation and reduce AQTB.

Originality/value – With a unique data set of practising audit teams, this study is the first to investigate how audit team equality is related to AQTB. Contributions are made to practitioners about audit team dynamics since the AQTB occurs as part of the audit decision-making process that influences audit quality. Inequality also has recruitment and reputation consequences. Thus, contributions are made to the audit market that is interested in audit quality. The study also contributes empirical evidence from an audit team context about behavioural outcomes and the social identity and deindividuation model theory (Klein *et al.*, 2007; Reicher *et al.*, 1995).

Keywords Gender, Social identity, Behaviour, Equality, Audit team, Deindividuation

Paper type Research paper

1. Introduction

This research studies audit team member perceptions of audit team equality and its influence on the team's audit quality threatening behaviour (AQTB). [Lennox and Wu \(2016\)](#) discuss the allegations towards a Big 4 audit firm in the US about gender discrimination and state that equality in all its forms should be of concern for all audit firms. Discrimination or unequal treatment, can include gender, age or other inequalities. Examples of discrimination

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have been evident in audit firms (Annisette and Trivedi, 2013; Duff, 2011; Hayes and Jacobs, 2017; Kim, 2004; Lennox and Wu, 2016; Lombardi, 2016) with a recent example in the UK (FT, 2019). For audit firms to take accountability for how equality in the workplace influences their work, their employees and society in general, more information is needed to better understand the auditors' perceptions of equality.

Some psychology research (Nadler *et al.*, 1982; Postmes and Spears, 1998; Zimbardo, 2007) has found several different avenues that can depict how people treat each other in terms of equality, including deindividuation and social identity. Deindividuation theory (Festinger *et al.*, 1952; Zimbardo, 1969) describes how groups treat individuals that they perceive as not belonging to the group, which can lead to feelings of anonymity, low self-awareness, low accountability and a loss of self-control that leads to irrational behaviour. In other words, when teams deindividuate some members, they treat the team member(s) as if they are not an equal member of the team, which will likely have negative effects on their work.

The social identity and deindividuation (SIDE) model (Klein *et al.*, 2007; Reicher *et al.*, 1995) has developed from this line of research and is based on evidence that deindividuation affects social identity within groups. Social identity (Amiot *et al.*, 2010; Hanel *et al.*, 2018; Turner, 1991) is a term used to describe how team members identify with others, and through these identifying interactions with each other, the team socially constructs the team's identity. When teams construct their social identity, they influence team members to behave in a manner that they might not otherwise outside, the presence of team members. Therefore, it is proposed that the deindividuation and social identity model should include behavioural outcomes (Klein *et al.*, 2007). In this study, I argue that in an audit team context, the team's professional social identity will dominate and therefore mitigate the relation that deindividuation has with audit team behaviour.

Gender equality has been defined as a social balance where all genders are treated equally (Acker, 1990; Grosser *et al.*, 2017). When team members experience gender inequality, team members are likely to treat each other differently, and therefore, team behaviour can be affected. Audit research (Gold *et al.*, 2009; Hardies *et al.*, 2013; Ittonen *et al.*, 2013) has predominately found that behaviour and decision-making outcomes can differ due to differences between male and female auditors. Also, the gendering of the audit profession has been suggested as having an influence on behaviour (Anderson-Gough *et al.*, 2005). However, to the best of the author's knowledge, little research has addressed gender equality (GE) in audit teams.

Behaviours of an individual can be influenced by several factors, including working with others in a team (Forsyth, 2010). Audits are usually conducted in teams; thus, the quality of the audit is likely to be influenced by audit team dynamics and behaviour. In this research, it is proposed that these three dimensions of equality (deindividuation, social identity and gender) can relate to AQTB.

The IAASB (2014) and Public Company Accounting Oversight Board, PCAOB (2013) found that there is a large variation in audit quality between audit team engagements. Several audit studies (Alderman and Deitrick, 1982; Herda and Martin, 2016; Otley and Pierce, 1996; Sweeney *et al.*, 2010; Willett and Page, 1996) have documented evidence that different behaviour can threaten the quality of the audit. AQTB has been recognised as an antecedent to audit quality (Hay *et al.*, 2015), which can lead to audit errors and litigation risks (Cullinan, 2004). Some audit research (Bamber, 1983; Rich *et al.*, 1997; Trotman *et al.*, 2015) has revealed how auditor dyad relations between the reviewer and preparer of audit work influence audit quality, but team dynamics are underexplored (Francis, 2011).

One Big 4 audit firm situated in Sweden participated in a questionnaire survey that provided a large and unique data set containing 251 audit teams that work together on an engagement. The audit teams consisted of participants of at least three ranks who worked together on one engagement, and individual team member perceptions of team equality and team behaviour were measured. Possible influential variables, such as gender, rank, team size, satisfaction and tone at the top (or firm culture), were controlled for, as well as additional tests.

The results indicate that team deindividuation is related to an increase in the frequency of team AQTB; however, team social identity is related to a decrease in the frequency of team AQTB. Also, social identity has a mitigating influence on the relation between team deindividuation and the frequency of team AQTB, with evidence supported by a partial least squares structural equation model (PLS-SEM) analysis. However, gender inequality is only related to the behaviour of premature sign-off (PSO), when auditors sign-off on an audit step before properly reviewing the task. Thus, experiences of team inequalities can increase the risk to audit quality. There was also evidence to indicate that audit team perceptions of inequalities can depend on the perceptions of the different audit team roles that each audit team member holds in the audit team, e.g. auditor in charge (AIC), audit manager or associate.

This research study contributes to audit literature about new team level determinants of AQTB. To the best of the author's knowledge, it is the first to explore these three dimensions of team equality and their influence on AQTB. The study also considers the perceptions of the whole team, comprising different roles and ranks, such as partners, managers and associates, which can contribute practitioner knowledge to the academic literature (Ater *et al.*, 2019). The audit team member's self-assessment of their audit engagement experience provides valuable new insights on audit quality. These are important issues for audit firms and regulators to address to improve audit quality, understand drivers of AQTB and improve the workplace environment. Improvements in audit quality should also be appreciated by the audit market.

Furthermore, the study contributes to the psychological theory of the SIDE model (Reicher *et al.*, 1995) by including a behavioural outcome and testing the model in a professional setting. The audit teams' context has unique regulations and standards to which their work must adhere, as well as unique services provided when compared to professional teams work in other contexts. Also, this study contributes to the theory of how social identity can mitigate problems of deindividuation that relate to behaviour that can threaten the quality of work.

The evidence also contributes to practitioners' and regulators' knowledge about team equality and AQTB since the potential effect of inequality and behaviour, such as errors made, can have negative consequences for the industry. Moreover, the audit market is concerned about the influence of negative reputation and behaviour in the audit industry, which could come from inequality in the audit team and impact audit firm choice. The results contribute to audit firm knowledge that can impact audit team training and promotion decisions by considering the effect of team equality on behaviour.

Equality is important in fully accessing different types of social competencies that are important in delivering high audit quality and non-audit services. Equality is also important to make it attractive for new auditors to enter the audit profession and to stay in the profession for a long-term. Equality will also impact the price and quality of the audit service. Audit team behaviour could also indicate how audit procedures can be controlled to reduce AQTB's influence on audit quality since the behaviour occurs during the audit process.

Section 2 will review the literature and develop the hypotheses about deindividuation, social identity and GE as the three team equality factors considered in this study. Section 3 will discuss the quantitative method used to conduct the questionnaire study. Section 4 will present and analyse the results, and Section 5 will discuss and conclude the results of the study.

2. Literature review and hypotheses development

2.1 Audit quality threatening behaviour

Audit teams need to conduct audit steps during the audit process without behaving in a manner that can threaten the quality of the audit (Kelley and Margheim, 1990). AQTB is an audit quality antecedent because this behaviour occurs during the audit process and improving this behaviour can increase the quality of the audit (IAASB, 2014; IFAC, 2016). AQTB has been characterised as unethical (Sweeney *et al.*, 2010), found to increase the risk of errors made (Chadegani and Moamed, 2015; Cullinan, 2004) and documented to negatively impact the audit opinion (Coram *et al.*, 2008). Therefore, research on factors that could influence AQTB is merited.

Some of the eight common AQTBs include

- (1) reducing work on an audit step;
- (2) under-reporting the time to conduct an audit;
- (3) signing off an audit step prematurely;
- (4) unauthorised reduction of sample size;
- (5) greater than appropriate reliance on the client's work;
- (6) accepting weak client explanations;
- (7) making superficial reviews of client documents; and
- (8) failing to research an accounting principle.

Under-reporting time (URT) is an AQTB that has been considered the least unethical and most likely to occur, while PSO has been considered the most unethical and the least likely to occur (Coram *et al.*, 2008; Sweeney *et al.*, 2010).

Most audit studies have concentrated on how individual auditor characteristics influence AQTB (Alderman and Deitrick, 1982; Chadegani and Moamed, 2015; Herda and Martin, 2016; Herrbach, 2001; Otley and Pierce, 1996; Paino *et al.*, 2012; Yuen *et al.*, 2013); for example, Chadegani and Moamed (2015) find that auditors with personality type A are more likely to report behaviours that lead to errors than auditors with type B personality, while Herda and Martin (2016) find that professional commitment is only associated with URT among less experienced auditors. Also, Donnelly (2003) found that auditors' performance and intention to leave increase AQTB and Herrbach (2001) found that professionalism, affective commitment and perceptions of review process quality influence dysfunctional behaviour. Audit firm characteristics have also been documented as related to an increase in the frequency of AQTB (Herrbach, 2001; Johansen and Christoffersen, 2017; Malone and Roberts, 1996; Otley and Pierce, 1996; Svanberg and Öhman, 2013) and a decrease in the frequency of AQTB (Johansen and Christoffersen, 2017; Otley and Pierce, 1996; Svanberg and Öhman, 2013; Sweeney *et al.*, 2010; Willett and Page, 1996). For example, audit firms that focus on the client rather than efficiency are more likely to conduct AQTB (Johansen and Christoffersen, 2017), and auditors in firms with a high-level quality control and review process engage in less AQTB (Malone and Roberts,

1996). However, little is known about how audit team characteristics can influence AQTB (Annelin and Svanström, 2021).

2.2 Audit team equality

In this research, team equality is used to describe how team members treat each other within the team, equally or unequally. Discrimination can stem from many different origins, including ageism, racism or classism (Haynes, 2017) and has been continuously evident in the accounting and audit industry. For example, Duff (2017) found that the low social mobility of future accountant prospects in the UK indicates classist discrimination against graduates of non-elite schools. Also, accountants or auditors have been discriminated against due to their accounting certification origin (Annisette and Trivedi, 2013). Ethnic minority accountants trained and certified in the same country as ethnic majority accountants are more likely to experience discrimination due to their ethnic identity (Baskerville *et al.*, 2016; Huang *et al.*, 2016; Lombardi, 2016). Furthermore, evidence suggests that ethnic minority women (Hayes and Jacobs, 2017; Kim, 2004) are highly discriminated against within the accounting profession.

Discrimination can be experienced in many different forms and can be influenced by different team and individual identities (Haynes, 2006; McKinlay, 2010). It has long been known (Le Bon, 1896) that individuals act differently when they are alone compared to when they are with others in a team or group. Thus, in this research, audit team equality is measured through the psychological concepts of deindividuation (Zimbardo, 2007), social identity (Tajfel and Turner, 1979) and GE to capture several team equality factors.

2.2.1 Deindividuation. Deindividuation is a term that describes when someone or several people treat others in a way that causes those others to lose their sense of individuality (Festinger *et al.*, 1952). Deindividuation includes feelings of anonymity, low accountability and low-self-control. When an individual is not acknowledged as a significant part of the team, they are treated unequally and discriminated against (Festinger *et al.*, 1952; Vilanova *et al.*, 2017). Maass *et al.* (2000) suggest that low self-control can increase the probability of anti-social prejudice or discrimination.

Early studies (Diener, 1979; Watson, 1973; Zimbardo, 2007) found that deindividuation influences behaviour. Nadler *et al.* (1982) established that teams which experience anonymity engage in transgressive behaviours if its members are undifferentiated and thus make emotional and irrational decisions. Furthermore, in audit research, Lord (1992) found that auditors who do not feel accountable and who feel anonymous act irrationally. It is likely that when an audit team experiences discrimination in terms of deindividuating anonymity and lack of accountability, the team conduct behaviours that they would not otherwise if they felt accountable for their actions. Behaviours such as accepting weak client explanations are more likely to occur when an audit team feels anonymous because they feel nobody will notice. Also, an audit team may under report the time it takes to conduct an audit when the team does not feel accountable to the firm or the future engagement time budget adjustment pressures (Coram *et al.*, 2008).

However, deindividuation can also develop prosocial behaviour depending on the context of the group (Postmes and Spears, 1998). For example, Zimbardo (1969) found instead that anonymous team members would not follow the team behaviour. If a team member does not follow the norms of the team, they may instead question judgements and make decisions that increase the quality of the audit. Also, Festinger *et al.* (1952) explained that, on the one hand, individuals may decrease dysfunctional behaviour if they worry about the consequences of taking full responsibility or accountability of their actions. However, on the other hand, when the responsibility is shared, a team can seem more attractive because

the individual feels that the consequences of their actions are protected by the team. As responsibility is shared, low self-control increases and dysfunctional behaviour increases.

Although there have been some counterarguments, the prior literature largely supports the notion that discrimination in terms of deindividuation leads to dysfunctional team behaviour. An audit team that experiences deindividuating anonymity, low accountability and low self-control may increase the frequency of AQTB. Hence, when an audit team experiences deindividuation, the team will engage in AQTB more frequently due to a sense of team inequality. In the first hypothesis, I propose that:

H1. Audit team deindividuation is positively associated to the team's AQTB.

2.2.2 Social identity deindividuation effects. Spears and Lea (1992) investigated how social identity is strongly related to deindividuation and thus includes the concept of social identity with deindividuation effects. Social identity theory has been acknowledged as an implicit measurement for discrimination and prejudice (Hargie *et al.*, 2003; Maass *et al.*, 2000; Tajfel and Turner, 1979). Social identity measures how close members feel to others and, therefore, how members are categorised in relation to others; that is, how members differentiate from the other. Differentiation can lead to unequal treatment from others.

Haynes (2008) points out that social identities continuously change and can be formed in many ways, including through everyday interactions with others and by the institution that structures these activities. The accounting literature (Becker *et al.*, 2014; Empson, 2004; Gendron and Spira, 2010; Murray, 1991; Taylor and Scapens, 2016) has documented that accounting firms' organisational identity and professional identity are continuously affected by change. For example, professional and organisation identities influence the commercialisation of the audit firm (Broberg *et al.*, 2018; Edgley *et al.*, 2016). This indicates that each audit team forms their own social identity within the identities of their audit office, firm and profession.

On the one hand, social identities could create more frequent AQTB. Morales and Lambert (2013) observe that accountants perform tasks that are incompatible with their identities. For example, auditors can identify with their clients (Bamber and Iyer, 2007; Skærbaek, 2009), which threatens the auditor's independence and, therefore, audit quality. If an audit team identifies with the client, they would be more likely to accept weak client explanations or over rely on the client's documentation.

The specific situation of the team can also drive the social identities to create specific behaviours towards those outside the team (Klein *et al.*, 2007). Bauer *et al.* (2019) found that social identity can have a negative influence on the relationship between auditors and specialists when specialists are identified as separate from the audit team. Thus, specialists can be deindividuated. If the audit team does not include the specialist, they may trust the specialist less and therefore sign-off on the audit step prematurely before properly reviewing the task. Thus, social identity could create AQTB between the audit team and the specialists that are brought in to help audit tasks because they have treated the specialist's work unequally.

On the other hand, Parker and Warren (2017) found that accountants have developed a professional identity that counters the stereotype they believe accountants have had in the past. Therefore, while some auditors may behave in their client's interest, many consider their professional identity as an independent actor more important, increasing their professional skepticism to conduct the audit to a high quality (Nelson, 2009). Also, Covaleski *et al.* (1998) found that identities develop within audit organisations through work goals, language and lifestyles and can lead to positive outcomes. As team language, team lifestyles

and team culture grow, the team has the opportunity to get to know their team members and may feel socially closer to the team, creating positive social identity and behavioural norms.

Although the prior literature suggests that social identity could have mixed results in influencing an audit team's behaviour, it seems reasonable to predict that professionalism in the audit team should be more greatly observed. Also, if the audit team feels close to their team members in the professional setting of an engagement, the team may begin to work cohesively and create a social identity specific to that team that would result in less AQTB. For the second hypothesis, I propose that:

H2a. Audit team social identity is negatively associated with the team's AQTB.

Reicher *et al.* (1995) suggest that when a group of people experience deindividuation it allows the team to express their social identity as a social norm. The individual's identity is still present, but the individual's behaviour is more likely to follow the social norms of the team due to the specific situation of the team. Moreover, Mckinlay (2010) points out that individuals may use the social identity of the team to censor their personal identity at work and use the team as a form of protection from the consequences of behavioural choices. This leads the individual to behave differently with the team than when they are alone or with a different team. Therefore, a team member may behave well in one audit team where they identify with the team, reducing the influence of any personal deindividuating experience in the team on their choice of behaviour. However, in an audit team where the same team member feels discriminated against and does not identify with the team, the team member may perform AQTB more frequently.

However, Andiola *et al.* (2019) found that subordinates are less likely to blame others for low quality work when their relations to others in the team are friendly and inspire hard work, which are both characteristics of closeness, and feelings of responsibility or accountability. This study proposes that the audit team should feel more accountable for their actions due to the closeness they feel towards their team members and a reduction in anonymity, as well as greater cohesiveness. Therefore, even if the team deindividuates team members, the social identity created by the team will mitigate the effect of deindividuation on AQTB. Hence, it is hypothesised that:

H2b. Audit team social identity moderates the relation between deindividuation and the team's AQTB.

2.2.3 Gender, sexes and gender equality in audit teams. Accounting research (Ciancanelli *et al.*, 1990) has been conducted through three gender perspectives. The first considers GE as having an equal number of male and female employees, which is through the gender-neutral perspective that considers women to have a minority status in the profession in terms of how many women work in the industry compared to the number of male auditors. Evidence in audit research has revealed several differences between the sexes that can influence audit work (Bernardi and Arnold Sr., 1997; Guthrie and Jones III, 2012; Hardies *et al.*, 2013; Ittonen *et al.*, 2013; Khlif and Acheh, 2017), such as females are more risk averse than males. Therefore, if the team has fewer female auditors than male auditors, it is possible that the more risk-taking male team members will influence the team's judgement and therefore conduct AQTB more often.

The second perspective considers GE as male and female employees having an equal distribution of tasks and role status, which is through the perspective of gender-stereotyped roles and responsibilities. The gendering of accounting work and accounting organisations through a masculinisation of the profession has been acknowledged in previous studies (Adapa *et al.*, 2016; Duff, 2011; Dwyer and Roberts, 2004; Kirkham and Loft, 1993; Kyriacou, 2016), and this phenomenon is found to reinforce the discrimination towards women's roles

in the audit profession and can influence auditor behaviour (Adapa *et al.*, 2016; Anderson-Gough *et al.*, 2005; Davie, 2017; Komori, 2008; Kornberger *et al.*, 2010). If the audit team instead creates a neutral-gendered culture, where all team members feel they are treated equally, respected and understood by their colleagues (Anderson-Gough *et al.*, 2005), the team is more likely to foster positive and professional behavioural outcomes.

The third critical perspective proposes that gender inequalities can only be changed if the social structures and ideology is challenged. Ciancanelli *et al.* (1990) found that while increasing numbers of women had started to work for accounting organisations, the distribution of women within the hierarchy of accounting firms as a partner, senior manager, manager and associate is not equal. Kokot (2015) found that partners from the UK experience sexism and inequality that derive from this type of organisational structure. Guthrie and Jones III (2012) found that more female auditors leave the profession than males due to comparatively less well-being.

Since most of the prior literature suggests that gender inequality leads to discriminatory behaviour in teams, it is expected that the decision to conduct an AQTB will be influenced by the experience of gender inequality in the team. Gender inequality may be influenced by the balance of male and female team members, the gender culture of the office or firm or other indirect external influences on the audit firm employees [1]. However, immediate team interactions can also play a direct part in team member behaviour within a specific team context (Forsyth, 2010). Thus, it is hypothesised that:

H3. Audit team gender inequality is positively associated with the team's AQTB.

3. Method

3.1 Questionnaire design

A questionnaire was designed [2] to capture the audit teams' perspectives on team equality and audit team member's perceptions of the team's AQTB. It was based on the experiential questionnaire design, in line with Cannon and Bedard (2017) and Gibbins and Qu (2005). An experiential questionnaire can be used to prompt memories of the respondent's experience about which they then provide evidence. In this study, the audit teams were first asked to provide details about a specific engagement to aid the team members to think about the specified engagement experience. The audit teams were also prompted to answer questions about an engagement experience they had just completed so they could base their answers on their memory of the experience as accurately as possible.

To decrease the possible influence of common method bias that can occur when one source is used to measure all variables (Podsakoff *et al.*, 2003), plain language was used and question and response formats were varied. Also, anonymity was assured to reduce desirability bias. To reduce context-induced bias, the presentation of independent and dependent variables was varied, and scale items were taken from previously tested research.

3.2 Variable measurements

Table 1 defines the variables used in this model and includes control variables found to influence AQTB and audit quality (Johansen and Christoffersen, 2017; Otley and Pierce, 1996; Yuen *et al.*, 2013). For example, the gender pay gap [3] between team members could be considered an equality factor and the pay gap could influence AQTB (Herrbach, 2001).

The dependent variable is mean AQTB, which is the perceptions of one team member's mean response to all eight items on the AQTB construct. The aggregation of these types of behaviour is in line with prior research (Donnelly *et al.*, 2003; Paino *et al.*, 2012; Smith *et al.*, 2018).

Table 1.
Variable definitions

MeanAQTB	=	Audit quality threatening behaviours, the mean of eight items for each team member
MeanDI	=	Deindividuation, the average of seven items for each team member
MeanSocialId	=	Social identity, the number that identifies how close the team member feels to the other team members (1 not close to 7 very close)
MeanGE	=	Gender equality, the average of seven items for each team member
DISI	=	The interaction between deindividuation and social identity
CONTROL	=	All variables below
LnAge	=	The natural logarithm of the age of each team member
Female	=	1 if a team member is female and 0 otherwise
TeamRole	=	The role of the team member in the team
Team Size	=	The number of team members in the team
Tenure	=	The number of years the audit client has been registered as a client at the audit firm
MeanSatis	=	Satisfaction, the mean of three items within a team
MeanTAT	=	Tone at the top, the mean of three items within a team
CostGap	=	The difference in average cost per hour between male and female team members, divided by the average cost per hour of male team members
LnTA	=	The natural logarithm of total assets of the audit client
ROA	=	The return on assets of the audit client
Leverage	=	The leverage ratio of the client, which is the ratio of total debt to total assets
InvenTARatio	=	The ratio of inventory to total assets
SalesGrowth	=	The sales growth
StateClient	=	1 if the client is a state client and 0 otherwise

It is measured on a Likert scale of 1 = Never to 5 = Always and asks the participant how frequently the team conducted the behaviour. While perceptions of frequency may differ between team members, recollection of the team engaging in an AQTB indicates that they occur and can, therefore, threaten audit quality.

On the one hand, the results show that 50 of all respondents perceived that the AQTBs rarely occur, which means they do not perceive that they never happen. On the other hand, 36% of respondents perceived that AQTBs never happen, leaving a small percentage to perceive that the AQTB happens more often than rarely (9% = sometimes, 4% = often, 1% always). The questions were designed to ask for perceptions of how others in their team behave to reduce non-response to this possible sensitive question and reduce personal bias. According to research (Kreuter *et al.*, 2008), participants will be more likely to answer if they feel they can project the answer onto others and, in doing so, reveal how they actually behave.

Team equality is measured through three variables, deindividuation, social identity and GE. Firstly, deindividuation (DI) is measured on a scale of 1 = Strongly Disagree to 5 = Strongly Agree and asks how much the participants agree with statements made about their experience of deindividuation in the team. Deindividuation is measured based on three factors (Nadler *et al.*, 1982):

- (1) lack of self-control;
- (2) low accountability; and
- (3) anonymity (see Appendix 2).

Items in the scales are also positively or negatively worded; thus, some items were reversed after data collection so that all items have the same direction where higher numbers mean perceptions of deindividuation situations in the team are high. MeanDI measures the average of each team member's response to the items of the deindividuation construct.

Secondly, social identity (SocialId) is measured by a question about closeness. A figure is used to depict closeness (see [Appendix 2](#)), which is taken directly from an original source ([Aron et al., 1992](#)), and the dimensions have not been adapted for this study. Social identity does not explicitly ask about inequality, which can help studies to reduce bias responses about inequality experiences ([Maass et al., 2000](#)).

Finally, GE is measured in two formats influenced by [Sörlin et al. \(2011\)](#). The participants are first asked to rate (on a scale of 1 = Strongly disagree to 5 = Strongly Agree) how much the participants agree with six statements made about GE. A seventh question was also asked to capture perceptions of masculinity and femininity (see [Appendix 2](#)). The items in the scales are sometimes positively worded and sometimes negatively worded; thus, some items were reversed after data collection so that all items have the same direction where higher numbers mean perceptions of gender inequality in the team are high. This makes it easier to compare with the deindividuation variable so that inferences can be made; for example, that higher levels of inequality lead to higher levels of AQTb. MeanGE measures the average of each team member's response to all items on the GE construct.

3.4 Data collection

One Big 4 audit firm with offices across Sweden provided data on 909 of their engagements. Engagement clients included public, private and state-owned ones and were anonymous to the researcher. Data was also provided for the audit teams, such as team size, job positions in the hierarchy of the team, audit hours, audit costs and contact details. Each audit team contained at least three ranks (AIC, manager and associate).

Two pilot tests of the questionnaire were carried out before the main study was conducted to decrease risks concerning reliability and validity [4]. Any auditor that worked on several of the 909 engagements in the same period was required to answer regarding only one engagement, which was assigned by the selection of the engagement they had spent the most hours working on in the audit year. More time spent having an experience on an engagement could increase the likelihood that respondents could recollect the audit team engagement experience accurately.

Subsequently, 217 audit teams (on 217 client engagements) that included 776 auditors were selected to take part in the questionnaire. The partners provided the participants with the decoded client information (which was coded so that the client was anonymous to the researcher) and informed their employees about the research in advance. The questionnaire was distributed via an online survey instrument accompanied by a letter from the researcher that informed the participants about their confidentiality and anonymity ([Gibbins, 2001](#); [Nelson et al., 2002](#)).

The individual response rate was 43%; the team response rate was 85%. Non-response was analysed with the use of analysis of variance to compare differences between the first 50 and last 50 respondents' results ([Larson and Catton, 1959](#)), an approach which is said to give a probable direction of any non-response bias [5]. The results showed no significant difference between early and late respondents, which indicates low risk for non-response bias. Among the 185 teams that responded to the questionnaire, 101 had at least two team members who responded, resulting in a total of 251 individual team members' data for use in the analysis.

3.5 Tests of data creditability

Following [Hair et al. \(2019\)](#), several tests for reliability and validity of the constructs were performed. Each of the measures used in this study has a reliability scale rate that measures

internal consistency acceptable at a Cronbach's coefficient alpha level that is greater than 0.70 (Cronbach, 1951). The composite reliability values were acceptable at a value between 0.60 and 0.70 (Hair *et al.*, 2019). Also, all variables had a significant relation to their constructs at $p < 0.001$, which indicates a low convergent validity problem (Bagozzi and Youjae, 1988) and the average variance extracted value are all above 0.50 (Hair *et al.*, 2019). There were no high correlations between constructs, which suggests a low discriminant validity problem (Bagozzi and Youjae, 1988) and the heterotrait-monotrait ratio were accepted at a value not significantly different from 1 or above 0.90 (Hair *et al.*, 2019). The variance inflation factor (VIF) to test collinearity were acceptable at values above 1 and below 3 (Hair *et al.*, 2019).

Factor loadings on each construct was also larger than 0.5 (Hair *et al.*, 2010), which indicates efficient strength for each factor validity. The factor loadings results were as expected. The AQTB items are loaded on one factor. The deindividuation items loaded on three factors: lack of self-control, low accountability and anonymity. The GE items loaded on three factors: individual equality, collective equality and gendering. All weights of indicators of latent variables were statistically significant (p -value = 0.001) with values close to +1 (Hair *et al.*, 2019).

3.6 Models and data analysis

An ordered logistic regression was conducted to test *H1*, *H2a* and *H3* because the dependent variable is ordered and would violate assumptions of the ordinary least squares (OLS) regression. The hypotheses of this study were tested using Model 1 for *H1*, *H2a* and *H3*:

$$\begin{aligned} \text{MeanAQTB} = & \beta_0 + \beta_1\text{MeanDI} + \beta_2\text{MeanSocialId} + \beta_3\text{MeanGE} + \beta_4\text{CONTROL} \\ & + \text{FE_Team} + \varepsilon \end{aligned} \quad (\text{Model 1})$$

The fixed effect (FE_Team) used in the OLS regressions calculates the variation of team members' perceptions within the team. Therefore, the results show what each team member thinks about equality and the team's AQTB that occurred on one specific team engagement that they all worked on together. For example, the average of all behaviour of the AQTB construct is calculated for each member's response, and then the fixed effect for the team function measures the variation of average response between team members within the same team.

A PLS-SEM for the moderation test of *H2b*. The reason for including both methods of analysis is to compare results between an analysis that measures team members within specific teams as well as using the robustness of the PLS-SEM for moderation in a two-step analysis; to test reliability and validity before assessing potential associations (Hair *et al.*, 2019).

4. Results

This research investigates the associations between team equality and AQTB in an audit team. Descriptive statistics and correlation tests were conducted before ordered logistic regression models were used to test hypotheses.

4.1 Descriptive statistics and correlation matrix

The descriptive statistics of each variable for the main analyses are reported in Table 2, Panel A. All teams in this study's average response to AQTB report that the AQTB occurs more than never (2 = rarely) and less than sometimes in their team experience. Out of all

N. 251	mean	sd	min	p5	p25	p50	p75	p95	max
<i>Panel A: Descriptive statistics</i>									
MeanAQTB	1.93	0.55	1.00	1.00	1.50	2.00	2.13	3.00	3.88
MeanDI	2.82	0.48	1.00	2.00	2.71	2.86	3.14	3.57	3.86
MeanSocialId	4.78	1.34	1.00	2.00	4.00	5.00	6.00	7.00	7.00
MeanGE	2.90	0.46	1.00	2.14	2.71	2.86	3.29	3.57	4.00
LnAge	3.57	0.22	3.18	3.26	3.37	3.58	3.71	3.97	4.09
Female	0.44	0.50	0.00	0.00	0.00	0.00	1.00	1.00	1.00
TeamRole	2.51	1.12	1.00	1.00	2.00	2.00	3.00	5.00	7.00
TeamSize	19.15	16.34	3.00	6.00	9.00	13.00	23.00	68.00	97.00
Tenure	12.84	4.95	3.00	4.00	9.00	13.00	17.00	19.00	19.00
MeanSatis	3.27	0.42	1.67	2.67	3.00	3.33	3.67	3.67	5.00
MeanTAT	3.52	0.47	1.00	3.00	3.33	3.33	3.67	4.33	5.00
CostGap	-0.12	0.62	-2.12	-1.55	-0.26	0.00	0.22	0.73	0.76
LnTA	14.19	2.01	9.48	10.89	12.67	14.24	15.74	17.61	18.28
OA	0.04	0.18	-0.89	-0.18	0.00	0.04	0.10	0.27	0.68
Leverage	0.59	0.25	0.00	0.09	0.42	0.65	0.77	0.95	0.99
InvenTAratio	0.07	0.13	0.00	0.00	0.00	0.00	0.11	0.31	0.69
SalesGrowth	0.15	1.02	-1.00	-0.26	0.00	0.02	0.12	0.47	10.79
StateClient	0.04	0.21	0.00	0.00	0.00	0.00	0.00	0.00	1.00

(continued)

Table 2.
Descriptive statistics
and correlation
matrix

	Mean	Mean	SocialId	MeanGE	LnAge	Female	TeamRole	TeamSize	Tenure	MeanSat	MeanTAT	CostGap	LnTA	ROA	Leverage	InvenTA	State	Sales
	AQTB	DI												ratio		Client	Growth	
<i>Panel B: Correlation matrix</i>																		
MeanAQTB	1.000																	
MeanDI	0.1446*	1.000																
SocialId	-0.254*	0.02*	1.000															
MeanGE	0.012	0.113	0.102	1.000														
LnAge	-0.082	0.061	0.149	0.136	1.000													
Female	-0.128	-0.003	0.160	0.047	-0.134	1.000												
TeamRole	-0.016	-0.051	-0.151	-0.049	-0.326	0.035	1.000											
TeamSize	0.123	0.051	-0.051	0.009	0.087	-0.124	0.054	1.000										
Tenure	-0.059	0.006	0.070	-0.010	0.031	0.023	-0.048	0.064	1.000									
MeanSatis	-0.140	0.107	0.324	0.101	0.129	0.036	-0.147	-0.010	0.026	1.000								
MeanTAT	-0.103	0.039	0.098	0.178	0.044	0.180	-0.016	0.033	0.069	0.099	1.000							
CostGap	0.013	-0.008	0.053	-0.077	0.036	-0.028	-0.072	-0.088	0.045	0.143	-0.123	1.000						
LnTA	0.129	0.087	0.104	0.020	-0.034	-0.085	0.050	0.510	0.187	0.117	-0.055	-0.023	1.000					
ROA	-0.057	-0.039	-0.028	-0.003	-0.041	-0.049	-0.020	-0.046	0.045	0.153	0.032	-0.040	0.025	1.000				
Leverage	0.009	-0.033	-0.020	-0.068	0.002	0.023	0.046	0.072	0.203	-0.094	-0.063	-0.050	0.293	-0.032	1.000			
InvenTARatio	-0.035	0.033	0.046	0.079	0.071	-0.003	-0.093	-0.111	0.165	-0.006	0.012	0.088	-0.112	0.038	0.280	1.000		
SalesGrowth	-0.080	-0.062	-0.074	-0.013	-0.065	-0.095	0.008	-0.092	-0.137	0.019	-0.082	0.013	-0.105	0.099	-0.121	-0.069	1.000	
StateClient	0.092	0.088	0.050	0.041	0.058	-0.034	-0.062	-0.143	-0.001	0.064	0.067	0.127	0.021	-0.116	0.035	-0.115	-0.025	1.000

Notes: Panel A presents the mean (Mean), standard deviation (SD), minimum (Min), maximum (Max) and the 5th, 25th, 50th, 75th and 95th percentiles (p) of all the variables used in the main analysis. Panel B reports the Spearman correlation matrix among the dependent variable, test variables and control variables, *indicates significance at the 5% level or less using two-tailed tests. All variable definitions are in [Table 1](#)

respondents, there were double the male partners and directors compared to female partners and directors; almost four times as many male senior managers compared to female senior managers; equal numbers of female and male managers and assistant managers; double the number of male senior associates compared to female senior associates, and there were 4% more female junior associates compared to male junior associates.

Furthermore, only one team had an average male partner cost that was less than the average female partner cost (at 62%), while the highest cost gap between male and female partners was an average male partner cost of 335% more than the average female partner in the team. Among the managers, 31 teams had an average female manager cost higher than the average male manager cost, with a range from 3% to 236%; and the range of average male manager cost higher than the average female manager cost was 2% to 132%. The average associate female cost was higher in 39 teams, with a range from 2% to 139%; and the range of average male associate cost higher than the average female associate cost was 4% to 88%. Thus, in all ranked groups, more teams had male counterparts that cost more than female members, than teams that had female counterparts that cost more than their male members.

The Spearman correlations between dependent and test variables are reported in Table 2, Panel B. This test indicates that GE may not have a significant relation to AQTB. This was tested in further analysis.

4.2 Model 1 results

The ordered logistic regression Model 1 are presented in Table 3. Model 1 has a pseudo R^2 0.137 and a Chi-squared of 180.316 (p -value < 0.000), which indicate the test variables have a significant contribution to the explanatory power of the model.

Variables	(1) MeanAQTB
MeanDI	0.667** (2.12)
SocialId	-0.568*** (-4.50)
MeanGE	0.054 (0.14)
<i>Controls</i>	
LnAge	0.702 (0.96)
Female	-0.042 (-0.12)
TeamRole	-0.153 (-1.18)
TeamSize	0.929 (0.71)
Tenure	2.480 (1.00)
MeanSatis	-0.800** (-1.98)
MeanTAT	-0.620* (-1.81)
CostGap	-28.329 (-1.29)
LnTA	-10.556 (-0.78)
ROA	121.078 (0.93)
Leverage	68.440 (0.84)
InvenTAratio	96.074 (0.86)
SalesGrowth	-4.276 (-1.15)
StateClient	116.024 (0.92)
<i>N</i>	251
pseudo R^2	0.137
Chi-squared	180.316
p -value	0.000

Notes: Z-statistics in parentheses; * p < 0.1; ** p < 0.05; *** p < 0.01

Table 3.
Model 1 results

The results support *H1* and *H2a*, indicating there is a moderate significant positive association between deindividuation and AQTB (*H1*) within teams (coefficient 0.667, $p < 0.05$), plus a strong significant negative association between social identity and AQTB (*H2a*) within teams (coefficient -0.568 , $p < 0.01$). There was no statistically significant support for *H3a*, that gender inequality will increase team AQTB. The control for gender pay-cost gap also showed no statistically significant relation to AQTB. However, additional tests of individual behaviour (see [Table 4](#)) show a moderate statistically significant (p -value < 0.05) and positive relation between gender inequality and the behaviour of PSO on the audit procedure. Therefore, the more an audit team experiences gender inequality, the more likely the team will experience some behaviour that can lead to errors in audit work that risk audit quality.

Furthermore, tests were conducted (see [Table A1](#)) to better understand the statistically significant control variables of team satisfaction (MeanSatis) and tone at the top (MeanTAT) effect on the main variable results. After excluding all other control variables, the two statistically significant control variables show a 1% increase in model R^2 , a 0.10 increase in the coefficient and improves the statistical significance of the independent variable for deindividuation from a p -value = 0.10 to a p -value = 0.05. Thus, team satisfaction and tone at the top have some influence on the audit teams AQTB as well as the main test variables.

4.3 Structural model

A PLS-SEM analysis was conducted to test the interaction hypothesis between deindividuation and social identity. A two-step approach can be made to test for the validity of the constructs using PLS-SEM (Hair *et al.*, 2019). The first step is to test how well the individual measures capture the latent construct (see Section 3.4). The second step is to test the structural model that captures the associations between the constructs. Collinearity between the main variable constructs were tested by the VIF, which showed results above 1 and below 3 that indicate low problems with collinearity.

The R^2 result for associations with the dependent variable AQTB shows that team equality explains about 15% ($R^2 = 0.148$) of the variance in AQTB. The R^2 result for the influence of deindividuation on social identity show that deindividuation explains about 23% ($R^2 = 0.227$) of the variation in social identity. The moderating influence of social identity on deindividuation, therefore, has a stronger influence on AQTB than the variables hold on their own. The Q^2 results are above 0.25 and below 0.50, which shows that the PLS path model has a medium predictive capacity (Hair *et al.*, 2019). The PLS predict analysis shows that the root mean square error for the construct AQTB show very little difference when compared to the linear regression model results, which indicates that the PLS-SEM has a high predictive power (Hair *et al.*, 2019).

The results of the PLS-SEM analysis with bootstrapping show that the path coefficients hold with the ordered logistic regression (see [Figure 1](#) and [Table 3](#)). Deindividuation has a significant positive association with AQTBs (0.134, p -value = 0.05) and social identity has a significant negative relation with AQTBs (-0.226 , p -value = 0.001). Moreover, the results of the PLS-SEM indicate that social identity plays a significant moderating role between deindividuation and AQTBs (-0.224 , p -value 0.05), which supports *H2b*.

When the GE construct is added to the model, it has no statistically significant association with AQTBs, nor with social identity. Furthermore, when including the control variables, team satisfaction and tone at the top, the coefficients' p -value of both variables were not statistically significant and associations with other main variables hold.

Variables	(1) AQTBI	(2) AQTBI2	(3) AQTBI3	(4) AQTBI4	(5) AQTBI5	(6) AQTBI6	(7) AQTBI7	(8) AQTBI8
main	0.196 (0.50)	1.404*** (3.63)	0.231 (0.56)	0.578 (1.42)	0.133 (0.37)	0.978** (2.52)	0.087 (0.27)	0.226 (0.59)
MeanGE	0.014 (0.03)	0.142 (0.31)	1.312*** (2.51)	0.608 (1.29)	0.189 (0.46)	0.952 (2.23)	0.149 (0.35)	0.117 (0.26)
SocialId	-0.259* (-1.82)	-0.323** (-2.30)	-0.522*** (-3.18)	-0.044 (-0.27)	-0.482*** (-3.27)	-0.518*** (-3.48)	-0.534*** (-3.66)	-0.641*** (-4.00)
LnAge	0.755 (0.86)	0.179 (0.20)	0.762 (0.78)	-1.453 (-1.59)	1.375 (1.63)	-0.926 (-1.06)	0.902 (1.07)	0.257 (0.28)
Female	0.111 (0.26)	-0.063 (-0.08)	-0.182 (-0.40)	-0.856* (-1.93)	-0.315 (-0.77)	-0.130 (-0.32)	0.508 (1.31)	0.613 (1.46)
TeamRole	-0.219 (-1.45)	0.138 (0.85)	0.150 (0.91)	-0.022 (-0.13)	-0.212 (-1.43)	-0.481*** (-2.83)	-0.081 (-0.51)	-0.192 (-1.15)
TeamSize	-1.835 (-0.01)	6.667 (0.19)	3.937 (0.00)	-6.676 (-0.12)	11.510 (0.11)	0.504 (0.27)	0.024 (0.02)	-11.818 (-0.37)
Tenure	0.109 (0.00)	13.534 (0.45)	12.524 (0.02)	-13.571 (-0.30)	27.088 (0.35)	0.918 (0.25)	0.329 (0.10)	-23.577 (-0.84)
MeanSatis	-0.730 (-1.52)	0.068 (0.15)	0.455 (0.88)	-0.606 (-1.17)	-0.592 (-1.20)	-1.126** (-2.26)	-0.771* (-1.69)	-0.778* (-1.66)
MeanTAT	-0.330 (-0.78)	-0.804* (-1.82)	-0.890* (-1.85)	-1.011* (-1.85)	-0.293 (-0.73)	-0.539 (-1.27)	-0.077 (-0.19)	-0.628 (-1.34)
CostGap	-23.296 (-0.17)	-128.248 (-0.99)	-141.202 (-0.91)	125.381 (0.80)	-272.956** (-1.97)	-9.098 (-0.27)	-7.198 (-0.24)	217.840 (1.53)
LnTA	15.990 (0.01)	-70.639 (-0.22)	-47.292 (-0.00)	71.829 (0.15)	-128.219 (-0.13)	-5.059 (-0.26)	-0.572 (-0.03)	127.229 (0.45)
ROA	-21.902 (-0.00)	705.248 (0.24)	606.940 (0.01)	-714.216 (-0.29)	1373.510 (0.25)	55.008 (0.29)	23.113 (0.14)	-1242.806 (-0.81)
Leverage	-27.656 (-0.00)	434.785 (0.10)	339.749 (0.01)	-431.517 (-0.30)	784.846 (0.17)	34.919 (0.30)	15.681 (0.16)	-749.940 (-0.84)
InvenTAratio	-49.518 (-0.00)	540.771 (0.11)	473.556 (0.01)	-600.372 (-0.35)	1158.016 (0.29)	34.647 (0.22)	23.375 (0.17)	-1047.743 (-0.96)
SalesGrowth	-10.469 (-0.01)	-10.851 (-0.01)	-17.777 (-0.00)	-7.140 (-0.00)	-15.024 (-0.09)	0.425 (0.13)	-1.117 (-0.42)	-4.741 (-0.00)
StateClient	-12.281 (-0.00)	684.099 (0.18)	592.835 (0.01)	-687.883 (-0.31)	1313.405 (0.25)	51.178 (0.28)	22.838 (0.14)	-1193.354 (-0.86)
N	251	251	251	251	251	251	251	251
pseudo R ²	0.269	0.262	0.349	0.309	0.253	0.312	0.270	0.286
Chi-squared	152.491	164.123	176.922	158.224	151.105	179.237	162.062	155.466
p-value	0.002	0.001	0.000	0.001	0.004	0.000	0.001	0.002

Notes: *t*-statistics in parentheses; **p* < 0.1; ***p* < 0.05; ****p* < 0.01

Table 4.
Individual AQTBI as
dependent variables

Further tests were conducted to show how results might be influenced by the respondents' role on the team. Team role was tested with a split sample between AIC, manager and associates. Results for AIC indicate that all results hold. For audit managers, results indicate a statistically significant ($p < 0.01$) negative relation of social identity with AQTB, but all other variables were insignificant. For associates, results indicate a statistically significant ($p < 0.01$) negative association of social identity with AQTB and a statistically significant ($p < 0.05$) positive association of gender inequality with AQTB, which suggest that associates are more likely to experience gender inequality in the team than other team members. This inequality that they experience could be combated with improved audit team social identity work. All other team member groups (specialists, assistants, etc.) had insignificant results.

5. Discussion and conclusion

5.1 Discussion

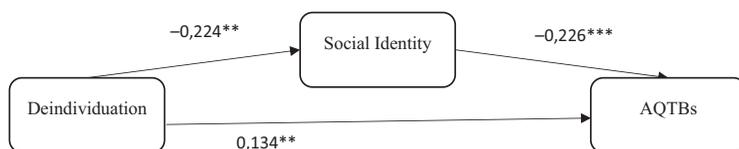
The empirical findings suggest that audit team equality has a positive relation to the team's frequency of conducting AQTB and that audit team social identity can mitigate this relationship. This conclusion is based on the strong statistically significant support for *H1* and *H2*. When teams experience inequality in terms of deindividuation, audit teams could feel less accountable and anonymous to their team and choose to conduct behaviour that can threaten the quality of their work. However, when the team has created a strong social identity, so that team members feel close, the team will conduct AQTB less frequently, even if they have experienced some deindividuating behaviour.

The results for *H1* and *H2a* are consistent with psychology literature (Diener, 1979; Johnson and Downing, 1979; Reicher *et al.*, 1995; Watson, 1973; Zimbardo, 2007) and contribute to audit literature and practice because they indicate several risks in the audit team process that AQTB incurs. Most significantly, when audit team members experience a sense of anonymity or a lack of self-awareness, they are less likely to be as effective with tasks such as evidence gathering and the risk of errors increases (see individual behaviour test, Table 4). Since it is suggested that individual team member behaviour is more likely to follow the social norms of the team due to the specific context of the team, and that teams that deindividuate can give less opportunity for all team members to voice their opinions, this evidence signals the possible negative influence of inequality in audit teams on the quality of the audit teams' work.

The results show that the PLS-SEM analysis hold with the ordered logistic regression analysis. Interestingly, the results of the ordered logistic regression analysis with fixed effect on team show that while controlling for the team effect, the results show a stronger relation between team equality and AQTB than the results with the PLS-SEM that conducts an analysis without the within team fixed effect. This indicates that the influence of the within team effect has an important contribution to how we can understand the relations between team process (such as team equality) and team outcomes (such as team behaviour).

The result of *H2b* also contributes to the literature on the SIDE model (Klein *et al.*, 2007; Reicher *et al.*, 1995) by providing evidence to suggest that deindividuation and social identity are likely to have behavioural outcomes. Moreover, when behavioural outcomes are

Figure 1.
Partial least squared-
structural equation
model



included, teams can mitigate the effects that deindividuation have on AQTB by strengthening team social identities. Hence, team equality should be included in social identity building in the audit context, to reduce the risks of AQTB.

Creating strong social identities in audit teams seems to be an important factor in the audit team process. Notably, this could be threatened by mandates such as rotation of auditors that would lead to auditors having less time to get to know and feel close to their team members. This result could therefore be a warning regarding the influence of mandatory rotation on audit quality. A cross-examination of different identities, such as age, race or class and social identities in audit teams could be beneficial to better understand the influence these have on audit team behaviour. However, [Klein *et al.* \(2007\)](#) point out that managing several identities simultaneously can be problematic and lead to negative behaviour.

5.2 Conclusions

This study is, to the author's knowledge, the first to investigate team equality within audit teams and has revealed the importance of improving behaviours through audit team social identity building. Also, evidence has shown that audit team dynamics other than gender differences can create unequal audit team experiences. Fostering self-awareness and accountability and decreasing anonymity could help to create prosocial behaviours within audit teams, instead of AQTB.

The support for *H2a* and *H2b* also contributes the first evidence, to the author's knowledge, from an audit context about the relation of audit team social identity with AQTB and how social identity can mitigate the relation that deindividuation has with AQTB. This result contributes to the understanding of audit firms, audit firm clients and regulators and to audit research knowledge. The results contribute to knowledge that can impact audit team training and promotion decisions, by considering the effect of team equality on behaviour. The findings regarding audit team behaviour could also indicate how audit procedures can be controlled to reduce AQTB's influence on audit quality regarding possible preventions of AQTB and deindividuation experiences within audit teams. Preventing behaviours such as the AQTB can improve audit quality and, therefore, be of interest to the audit market. Also, decreasing inequality creates opportunity for competence development and reduce reputation risks.

5.3 Limitations

There are several other possible limitations to this study than those already mentioned. Firstly, it is recognised that the influence of the Swedish rhetoric of equality in the workplace may have an important impact on the perceptions of equality in this study ([Creegan *et al.*, 2003](#)). However, although Swedes have a reputation for higher equality measures when comparing to other countries, equality in the workplace has been described as a persistent and systemic problem that still inhibits the quality of work in several industries, especially finance and accounting ([Swedish House of Finance, 2021](#)). Thus, inequality in the Swedish workplace may be a wider problem than it is generally understood.

Secondly, it is recognised that cultural perceptions of equality may differ between countries, and this may limit the generalisability of results. Despite this, it should be generalisable at least to other northern European countries. Future research could consider a cross-cultural comparison study of equality perceptions within audit teams to learn more from this predicament.

Thirdly, like all survey perception studies, memory bias is a recognised limitation of this study. The possibility that respondents' answers are influenced by other team engagements, due to memory problems, is also a considered limitation. Finally, further research could be conducted to better understand the impact of GE in audit teams since the measurement used did not find consistent results across several AQTBs. Providing additional tests in different contexts or using additional measurements for GE and other types of behaviour in teams could be beneficial for future research.

Notes

1. For example, the country's gender culture, the local region's gender culture or the family's gender culture.
2. See Appendix, for example, of main variable questions on the questionnaire.
3. The gender pay gap control is measured by the difference between average cost of the male team members per hour and the average cost of the female team members per hour, and divided by the average cost of male team members per hour (European Commission, 2018). The cost data was provided by the audit firm, and it was indicated that it is not the auditors' salaries, but instead the cost of each employee on the engagement for the audit firm. Unfortunately, we could not receive the pay/salary of employees but consider the cost of each employee on the engagement as a proxy indicator of pay. This may be a limitation to this control variable.
4. The first pilot test was conducted at three different audit firms during previous research at the end of 2015. The second pilot test consisted of five randomly sampled teams of the 909 engagements from the Big 4 audit firm via an internet Web-service. It was sent to 44 participants who were given five working days to respond and 17 responses were collected with a 39% response rate.
5. Non-response bias is the possibility that the respondents who do not answer the questionnaire have a different perception than those who do answer the questionnaire, and so the information given is biased.

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Variables	(1) MeanAQTB	(2) MeanAQTB	(3) MeanAQTB	(4) MeanAQTB	(5) MeanAQTB
MeanDI	0.551* (1.80)	0.667** (2.12)	0.658** (2.11)	0.551* (1.80)	0.667** (2.12)
MeanGE	-0.079 (-0.23)	0.054 (0.14)	0.131 (0.37)	-0.079 (-0.23)	0.054 (0.14)
SocialId	-0.586*** (-4.85)	-0.568*** (-4.50)	-0.538*** (-4.38)	-0.586*** (-4.85)	-0.568*** (-4.50)
LnAge		0.702 (0.96)			0.702 (0.96)
Female		-0.042 (-0.12)			-0.042 (-0.12)
TeamRole		-0.153 (-1.18)			-0.153 (-1.18)
TeamSize		-0.939 (-1.24)			0.929 (0.71)
Tenure		-18.707 (-1.40)			2.480 (1.00)
MeanSatis		-0.800** (-1.98)	-0.699* (-1.76)		-0.800** (-1.98)
MeanTAT		-0.620* (-1.81)	-0.626* (-1.84)		-0.620* (-1.81)
CostGap		-28.329 (-1.29)			-28.329 (-1.29)
LnTA				1.134 (1.31)	
ROA				220.484 (0.62)	121.078 (0.93)
Leverage				414.240 (0.63)	68.440 (0.84)
InvenTAratio				283.086 (0.62)	96.074 (0.86)
SalesGrowth				49.816 (0.61)	-4.276 (-1.15)
StateClient				334.518 (0.63)	116.024 (0.92)
N	251	251	251	251	251
pseudo R ²	0.127	0.137	0.133	0.127	0.137
Chi-squared	167.695	180.316	174.693	167.695	180.316
p-value	0.000	0.000	0.000	0.000	0.000

Notes: z statistics in parentheses; * $p < 0.1$, ** $p < 0.05$; *** $p < 0.01$

Table A1.
Control variables test

Questionnaire

Dependent variable: audit quality threatening behaviour

Previous research that has studied auditors' behaviour has found that there are several different types of behaviour that occur during an audit. From 1 (Never) to 5 (Always), please indicate how often the audit team members of the specified audit engagement conducted the behaviour listed below:

- Reduce the amount of work performed on an audit step below what you consider reasonable.
- Under report audit time.
- Sign-off an audit-programme step without completing the work or noting the omission.
- Make an unauthorised reduction of sample size.
- Have a greater than appropriate reliance on client work.
- Accept weak client explanations.
- Make superficial reviews of client documents.
- Fail to investigate an accounting principle.

Independent variables:

(1) Deindividuation:

From 1 (Strongly Disagree) to 5 (Strongly Agree), please indicate how much you agree with the following statements in relation to your experience on the specified audit team engagement.

- I devoted much attention to my behaviour on this team engagement.
- I did not care what others think of me.
- I was self-conscious during the specified audit meeting(s).
- I didn't feel free during the specified audit.
- I did what I wanted.
- My behaviour was affected by others' behaviour.
- My behaviour in the team was not hesitant.

(2) Social identity:

- Select the number that corresponds to the picture that most closely matches your relationship with the other audit team members.

Look at the picture and answer the question below

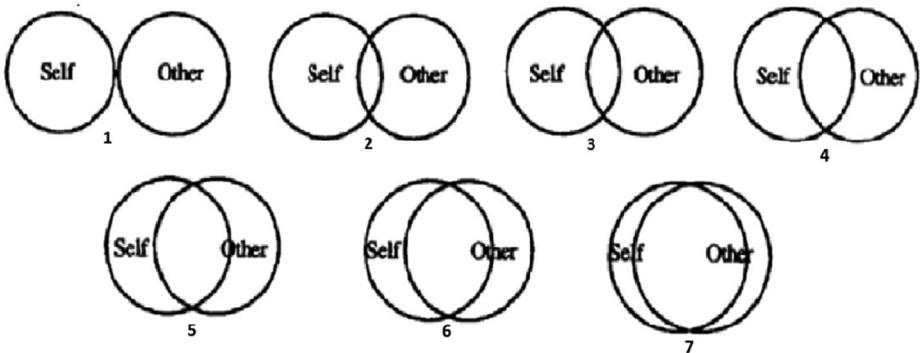


Figure A1.

(3) Gender equality:

From 1 (Strongly Disagree) to 5 (Strongly Agree), please indicate how much you agree with the following statements.

- An education is more important for a male than a female audit team member.
- When jobs are scarce, male audit team members should have more rights to a job than female audit team members.
- On the whole, females make better audit team leaders than males.
- It is important that male and female audit team members share the responsibilities for the audit engagement.
- Gender equality is important in the audit team.
- The audit firm should try to influence the audit team to increase GE in audit teams.

Previous research has described the term “gender” as how masculine or feminine a person is due to their social, cultural or psychological differences. From 1 (Not at all gender equal) to 5 (Completely gender equal), please indicate how you rate the GE in the specified audit team in terms of how team members were treated due to their masculinity or femininity.

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