Appendix to
Group audits: Divided responsibility versus sole responsibility – insights from academic research

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Table of Contents

Scoping Decision 1
Literature search strategy 4
Identification of relevant studies 6
Study Selection 10
Critical Appraisal 11
Data Extraction of group audit literature 13
Data Extraction of relevant accountability literature 19
Data Extraction of relevant accountability literature in auditing 29
References 36

Scoping Decision

Our discussions with standard setters lead to discovering their interest with respect to the communication associated with the sole versus divided responsibility audit opinion. As we summarize it:

Stage	**Approach for research synthesis**
Defining the focal question – clearly defined and well-focused question	Is a group audit where the group auditor takes sole responsibility in the audit report for all component audits likely to be more, less or equally effective as when there is divided responsibility in the audit report between the group and component auditor? 1. This question needs to be addressed from an auditor carrying out the audit perspective in that it needs to be understood under what conditions each outcomes with respect to audit effectiveness is likely to occur. 2. *The question from a reader of audit opinion perspective about the message that is conveyed about the effectiveness of the audit by mentioning/not mentioning the existence of a component auditor. Under the sole responsibility opinion, there are still at least two auditors involved in auditing the overall entity but the sole responsibility opinion no longer communicates to the readers about to the existence of a subsidiary auditor.*

Our discussions with standard setters discovered this second question (in italics above) with respect to how users interpret what the audit opinion communicates about the nature of the group audit. Under the sole responsibility opinion, there are still at least two auditors involved in auditing the overall entity, but the sole responsibility opinion has never communicated to the readers the existence of a component auditor. In the past, the existence of different component and group auditors has been relatively rare and, hence, without mention of the component auditor, the reader may assume the existence of only one auditor for the entire group. Factually, that reader inference would not be correct in a sole responsibility group audit opinion.

We initially thought that both questions could be addressed in one synthesis. We discovered in the course developing our detailed research synthesis proposal based on the "Critically Appraised Topic (CAT)" approach (see Barends, Rousseau, and Briner 2017) that we could not deal with both questions in one synthesis. CAT provides a quick and succinct assessment of what is known (and not known) in the scientific literature about an intervention or practical issue by using a systematic methodology to search and critically appraise primary studies. However, in

order to be quick, a CAT makes concessions in relation to the breadth, depth and comprehensiveness of the search than a more traditional research synthesis for academic purposes would. Aspects of the search are limited to produce a quicker result than an academic synthesis:

- Focus: A very precise research question that draws on a common body of evidence.
- Searching: a limited number of databases may be consulted, and unpublished research from well-established sources are consulted.
- Data Extraction: only a limited amount of key data is extracted, such as year, population, sector, sample size, main findings, and effect size.
- Critical Appraisal: quality appraisal is often limited to methodological appropriateness.

By adopting this convention of CAT, we can synthesize the evidence in an informative manner and deliver it to standard setters in the time period between standard setting meetings (normally eight to ten weeks).

When we attempted to include the user communication and interpretation of the audit report into our synthesis profile, we realized that a very different research literature would have be searched in order to provide a meaningful response. Our analysis is as follows:

- Under both audit regimes, sole and divided responsibility, there are always at least two audit firms, the group auditor and the component auditor, involved in the audit of the overall entity. Under the sole responsibility opinion, the opinion no longer communicates to the readers about to the existence of a subsidiary auditor. Hence, the reader may not be aware of the existence of the component auditor, whom they would be aware of under the divided responsibility opinion. Further, the reader may infer that the group auditor has carried out the entire audit, as they would when there is no component auditor present.
- The question is: Does the reader's perception of the effectiveness of the audit change, given the disclosure of a component auditor's existence under divided responsibility, but no mention of the component auditor, in a sole responsibility opinion?
- Of course, there would be no mention of the non-existence of a component auditor when one does not exist, as is the case in many current group audits (i.e. the current base rate).

However, with the European mandated audit firm rotation coming into law over the next decade, the incidence of component auditors different from group auditors could increase substantially in future years. This question is not whether audit the audit itself is more or less effective, but what attributions users would make under various communication options, especially in light of the potential for change in the base rate assumption that most audits that do not mention a component auditor are a result of a one audit firm worldwide audit. In other words, in the future the reader's assumption about one audit firm doing the entity wide audit as being the most likely scenario may be changed with many companies have group and component auditors that are

different. But under the sole responsibility audit opinion, that was the outcome of the final standard setting on group audits; the existence of two or more auditor would not necessarily be made known in the audit opinion, albeit it could be disclosed elsewhere.

To address this latter issue we need to consider the interaction between user attribution of responsibility and user perceptions of the effectiveness of auditor evidence collection, evaluation and opinion formation under different communication regimes. This is a vastly different research question than whether the conduct of the audit itself (i.e. the evidence collection process, and the evaluation of evidence) differs under sole versus divided responsibility audit opinions. Simply put, the conduct of the audit question is about the substance of the audit (audit quality), whereas the user interpretation of the opinion question is about the user's interpretation of communicated audit results that may or may not reflect any substantive differences in audit quality.

Both issues are worthy of a synthesis, but they are so different that one would be effectively attempting to carry out two different syntheses of the academic research, which would require two different research teams to do effectively, given the time between two standard setting board meetings. Hence, we narrowed the focus on our research to the first question, about substantive audit effectiveness, leaving the second for future work if deemed useful. For example, if the standard setter was considering the identification of the component auditor as part of the audit report, without intending to communicate any differential attribution of substantive audit quality, then a meaningful research synthesis might well be possible under that focused research question.

Literature search strategy

We devise the following search strategy:

1. All research studies (archival, case, experimental, survey) that examine any aspect of the group audit will be searched for and examined for relevance to our question.

Examining the first question developed in conjunction with our standard setters committee:

> Is a group audit where the group auditor takes sole responsibility in the audit report for all component audits likely to be more, less or equally effective as when there is divided responsibility in the audit report?

We first address it from the effects of the two regimes on the component auditor carrying out the audit. That is, we ask: Under what conditions different audit outcomes could occur due to the differences in supervisory regimes? We based our evidence collection in this area on the following set of assumptions that appeared to be reasonable to our standard setter committee:

- Assume that more effective component audit can be translated as meaning leading to more accurate accounting numbers in the component
    - as a result of or in anticipation of a more thorough component audit and/or
    - more attention and effort by the component auditor in carrying out the audit of the component and/or
    - the component auditor considering a greater set of more relevant information in arriving at a conclusion about the component accounting numbers.

- Assume the group auditor with sole responsibility implies greater involvement with component auditor in terms of the scope of the component audit (i.e. evidence collection process) and in reviewing the conclusions drawn from the evidence (i.e. audit outcomes).

- Assume the group auditor would (and is required by professional standards) put more effort into setting the scope of the component auditor's work and evaluating the results of that work if the group auditor was taking sole responsibility in the audit report than in a divided responsibility report.

We posit that evidence from accountability research about differential evidence collection and evaluation processes would inform standard setters about the likely effectiveness of requiring sole versus divided audit firm responsibility approach for the component audit or coexistence of both.

2. We search the accountability research literature (in accounting, management, and psychology) for evidence on the effects of two types of accountability:
    a. specific accountability to a known superior (i.e. the group auditor in the sole responsibility audit) with known preferences about evidence collection process and nature of outcomes under the following scenarios
        i. A known superior (i.e. group auditor) preference for high quality evidence collection and accurate results.
        ii. A known superior (i.e. group auditor) preference for a focus on efficient low cost process of evidence collection.

b. broad based accountability (i.e. by the component auditor in a divided responsibility audit) to an unknown set of potential parties (audit opinion readers) who the accountable party (i.e. the component auditor) does not know their specific preferences about process or outcomes.

Eligible articles are those that meet the following criteria:

1) The study was an evaluation of group audits or accountability pressure.

2) Studies may be experimental, quasi-experimental, field (i.e. interview based), case (in-depth study on one or a limited number of occurrences).

3) The study reports on at least one process result (i.e. quality of work carried out) or outcome result (i.e. accuracy of conclusions).

4) The study is written in English, but may be cross-national.

5) The study was published before 2003. We also collect studies post 2003 to update the study after this current review as described in Section "Results and Synthesis – Main Findings (post-2003)".

6) Published and unpublished studies are included up to 2003 and for the update from 2003.

Identification of relevant studies

Our search includes published and unpublished articles, reports, documents, and other readily available sources. As suggested by CAT, we tradeoff ability to inform standard setters with high quality evidence that has been evaluated with the breadth of search that is traditionally included in academic based research synthesis (Barends et al 2017). The studies are identified via a search of key online databases and other sources using search terms noted below. In addition to the online searches, we review the bibliographies of key articles that address:

1. Group audits
2. Accountability pressure on searching for and evaluation of evidence.

The databases used in our search for *published* articles include:

- ABI INFORM – GLOBAL (also known as ABI at ProQuest)
- ECONlit
- PsycINFO

We supplement these sources by examining the citations for key article through the use of the Social Science Citation Index (also known as the Web of Science Core Collection) on a time available basis.

After conducting the search for published documents described above, we also conduct subsequent searches for unpublished studies in SSRN (Social Science Research Network). The SSRN is the leading source for working papers in social sciences and includes almost 782,529 research papers from 363,595 researchers across 30 disciplines. The collections are especially strong in accounting and auditing as well as finance and management.

We believe that this set of sources will result in CAT criteria based search of the research literature and provide an adequate base for developing evidence to inform standard setters about the research questions.

We employ the following search terms:

"Group Audit" and ("Accounting" OR "Auditing")
Accountability and Superior
Accountability and Preference
Accountability and "Known Preference"

The first task involving these searches is to keep track of the number of "hits" each search term reveals within each database. Next, we will review all titles and abstracts to determine: (1) whether the article is relevant to our study; and (2) whether the article is evidence based or not (i.e. theoretical articles will be excluded). Next, we sort the empirical articles by keywords across search engines to eliminate article redundancy between search engines. We then identify articles that are eligible for complete coding based on the criteria defined in the previous section ("Literature Search Strategy").

Group audit literature search

Pre-2003

ABI/Inform, Business Source, ECONlit and SSRN research articles published in scholarly journals (or on SSRN) up to December 2003				
Search terms	**ABI/ Inform**	**Business Source**	**ECONlit**	**SSRN**
S1: "group audit" AND "auditing"	7	0	2	0
S2: "group audit" AND "accounting"	6	0	7	0
S3: "principal auditor"	9	11	5	0
S4: "component auditor"	0	28	0	0
S5: "lead auditor" AND "other auditor"	0	0	0	0
S6: "multilocation audit"	4	3	1	0
S7: "multinational audit"	9	3	0	0
Duplicates and irrelevant articles removed	91			
Articles identified by screening reference lists	1			
Total articles retained (articles summarized in appendix)	**5**			

Post-2003

ABI/Inform, Business Source, ECONlit and SSRN research articles published in scholarly journals (or on SSRN) after December 2003				
Search terms	**ABI/ Inform**	**Business Source**	**ECONlit**	**SSRN**
S1: "group audit" AND "auditing"	23	6	2	8
S2: "group audit" AND "accounting"	23	7	2	8
S3: "principal auditor"	19	6	8	5
S4: "component auditor"	3	77	11	1
S5: "lead auditor" AND "other auditor"	1	1	0	0
S6: "multilocation audit"	0	0	0	1
S7: "multinational audit"	23	5	2	6
Duplicates and irrelevant articles removed	236			
Articles identified by screening reference lists	4			
Articles identified by early view journals	3			
Total articles retained (articles summarized in appendix)	**19**			

Auditing literature search

Pre-2003

ABI/INFORM Global ***research articles published in scholarly journals up to December 2003***	
Search terms	**ABI/INFORM Global**
S6: ab(accountability) AND ab(auditing) AND “outcome”	15
S7: ab(accountability) AND ab(audit*) NOT "public sector"	89
S8: ab(accountability) AND ab(audit*) AND “preference”	17
S9: ab(accountability) AND ab(audit*) AND “superior”	15
S10: ab(accountability) AND ab(account*) AND “preference”	52
Articles identified by screening abstracts	**35**
Duplicates and irrelevant abstracts removed	16
Total articles retained (articles summarized in appendix)	**19**

Post-2003

ABI/INFORM Global ***research articles published in scholarly journals after December 2003 reviewed***	
Search terms	**ABI/INFORM Global**
S1: ab(accountability) AND ab(auditing) AND “outcome”	46
S2: ab(accountability) AND ab(audit*) NOT "public sector"	195
S3: ab(accountability) AND ab(audit*) AND “preference”	41
S4: ab(accountability) AND ab(audit*) AND “superior”	33
S5: ab(accountability) AND ab(account*) AND “preference”	185
S6: ab(accountability) AND ab(account*) AND “superior”	145
S7: ab(accountability) AND ab(account*) AND “outcome”	100
Articles identified by screening abstracts	**22**
Duplicates and irrelevant abstracts removed	18
Total articles retained (articles summarized in appendix)	**4**

Psychology Literature Search

PsycInfo Database for research articles published in scholarly journals before December 2003 and after December 2003			
Search terms	**Total**	**Retained Pre-2003**	**Retained Post 2003**
Abstract: accountab* AND Author: Tetlock AND Peer-Reviewed Journals only (au tetlock and ab accountab*)	26	13	2
Abstract: accountability AND Abstract: outcome AND Peer-Reviewed Journals only	335	6	12
Any Field: accountability AND Any Field: superior AND Peer-Reviewed Journals only	49	1	4
Any Field: accountability AND Any Field: preference AND Peer-Reviewed Journals only	47	1	3
Total from database searches (including duplicates)	**457**	**21**	**21**
Lerner and Tetlock (1999 review article on accountability)	193	32	N/A
Grand total (including duplicates)	**650**	**55**	**21**
Articles retained from database searches		12	14
Articles retained from Lerner and Tetlock (1999)		32	N/A
Total articles retained		**44**	**14**

Study Selection

Description of methods used in the component studies

We include studies that use a wide variety of methods, experimental, quasi-experimental, field (i.e. interview based); case (in-depth study on one or a limited number of occurrences). The studies included will include various samples, including individuals (e.g., auditors, employees, students,), audit firms, specific corporate audits or geographical areas. The outcome variables included in our study will include measures of extent of evidence search, quality of evidence evaluation, and nature of evaluation outcomes.

Criteria for determination of independent findings

Many studies report more than one outcome that is relevant to our domain of interest. In archival studies, authors may publish more than one article using data from the same sample. This is rare in experimental, quasi-experimental, surveys and field/case studies. Hence, to the extent we use studies with archival data we must make ensure author/sample selection are independent for inclusion. We also must ensure that other forms of research are also using independent samples. Hence, as part of our codings we look for reference to related papers using the same data set.

Details of study coding categories

From each study, we collect information including year of publication, research design, sample size, population (e.g., industry, type of employees), outcome measures, main findings, and effect sizes. Following CAT recommendations (Barends, Rousseau, and Briner 2017) we focus on a limited number of categories of data extracted to focus on answering our specific question.

Critical Appraisal

Evaluation of Methods

To determine the methodological appropriateness of effect studies and impact evaluations, we follow the CAT recommendations (Barends, Rousseau, and Briner 2017) that suggest that evidence be evaluated at six levels of appropriateness based on Shadish, Cook and Campbell (2002), and Petticrew and Roberts (2006).

Design	Level
Systematic review or meta-analysis of randomized controlled studies	AA
Systematic review or meta-analysis of non-randomized controlled and/or before-after studies	A
Randomized controlled study	
Systematic review or meta-analysis of controlled studies without a pretest or uncontrolled study with a pretest	B
Non-randomized controlled before-after study	
Interrupted time series	
Systematic review or meta-analysis of cross-sectional studies	C
Controlled study without a pretest or uncontrolled study with a pretest	
Cross-sectional study (survey)	D
Case studies, case reports, traditional literature reviews, theoretical papers	E

From Barends, Rousseau, and Briner. 2017. P. 15

Evaluation of Effect Sizes

To determine the magnitude of an effect, we apply Cohen's rules of thumb (Cohen, 1988; see below) as suggested by CAT approaches (Barends, Rousseau, and Briner 2017). According to Cohen a 'small' effect is an effect that is only visible through careful examination. A 'medium' effect, however, is one that is 'visible to the naked eye of the careful observer'. Finally, a 'large' effect is one that anybody can easily see because it is substantial.

Effect size	Small	Medium	Large
Standardized mean difference: d, Δ, g	≤ .20	.50	≥ .80
Correlation: r, ρ	≤ .10	.30	≥ .50
Correlation: r^2	≤ .01	.09	≥ .25
ANOVA: η^2, ω^2	≤ .01	.06	≥ .14
Chi-square: ω^2	≤ .10	.30	≥ .50
Simple regression: β	≤ .10	.30	≥ .50
Multiple regression: β	≤ .20	.50	≥ .80
Multiple regression: R^2	≤ .02	.13	≥ .26

From Barends, Rousseau, and Briner. 2017. P. 17

Data Extraction of group audit literature

Literature Pre-2003

Author & Year	Sector / Population	Design + sample size	Main findings	Effect size	Level
Kim, Neter & Godfrey (1987)	Theoretical accounting populations	64 simulations with 500 replications of theoretical model on hypothetical populations	Two-stage monetary unit sampling approach leads to better coverage and tightness, but more frequent incorrect rejection.	n/a theoretical paper	E
Hermanson (1993)	Big Six accounting firms	Case studies of Big 6 audit firms	Firms generally do not have extensive audit planning guidance or standardized practice for multinational audits, and rarely use random sampling and error projection in planning.	n/a case study	E
Hermanson, Hermanson & Carcello (1996)	Multinational audit failures	Case studies of 8 failures	Multinational audit risk factors did not contribute to the failures.	n/a case study	E
Allen, Loebbecke & Sorenson (1998)	5 Big Six and one large international accounting firm	6 interviews with experts and examination of firm policy and procedure manuals	Global operations introduce risk factors, including diverse accounting and auditing standards.	n/a interviews and case study	E
Allen, Beasley & Branson (1999)	Multilocation service company	Case study of 72 monthly observations for 30 operating units	Preliminary analytical procedures based on disaggregated data including peer location data leads to smaller forecast error when generating company-wide account balance expectations.	n/a case study	E

Literature Post-2003

Author & Year	Sector / Population	Design + sample size	Main findings	Effect size[1]	Level
Barrett, Cooper & Jamal (2005)	Multinational audits	Case study of multinational audit by a Bix Six audit firm	Global network audit methodology not consistently followed by group auditor nor component auditor, attributable to local sensitivity, pride and mistrust.	n/a case study	E
Glover, Prawitt, Liljegren & Messier (2008)	Theoretical component populations	Theoretical method with illustrative examples	Proposes allocating materiality using probabilistic model that considers number of components, component risk and group risk to determine bounds based on benchmark multiples.	n/a theoretical model	E
Carson (2009)	Global audit firm networks	15,583 clients from 62 countries in 2000 and 14,628 clients from 60 countries in 2004	Significant audit fee premiums are consistently associated with global industry specialists in both pre- and post-Andersen failure periods, irrespective of national specialization.	Medium effects Year 2000 Global #1 or #2, and National #1 $\beta = 0.121$ Global #1 or #2, not National #1 $\beta = 0.067$ Year 2004 Global #1 or #2, and National #1 $\beta = 0.084$ Global #1 or #2, not National #1 $\beta = 0.111$	B
Francis, Richard & Vanstraelen (2009)	Listed companies in France	467 joint audits in France in 2003	Big 4 auditors associated with audit quality (constrains income-increasing discretionary accruals).	Medium effects 2 Big 4 auditors vs all other auditor pairs $\beta = -0.057$	B

[1] $d \leq 0.2$ is considered a 'small' effect size, $0.2 \leq d \leq 0.5$ represents a 'medium' effect size and $d \geq 0.8$ a 'large' effect size per "Critical Appraisal" section of the Appendix, consistent with Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

				2 Big 4 vs 1 Big 4 + 1 non-Big 4 β = -0.038 1 Big 4 + 1 non-Big 4 vs. 2 non-Big 4 β -0.044	
Hanes (2013)	Multinational audits	Summary of related literature	Applies distributed work theories to group audits and proposes research questions/approaches to address literature gaps in the following areas: communication and coordination;	n/a literature review	E
Lyubimov, Arnold & Sutton (2013)	Juror-qualified population	148 participants (4 conditions)	Litigation effects: outsourcing audit procedures leads to higher compensatory damages. Outsourcing procedures to an offshore service provider leads to higher punitive damages.	Medium effect of outsourcing vs. not outsourcing on compensatory damages d = 0.26 Medium effect of outsourcing to offshore service providers d = 0.43	A
Stewart & Kinney (2013)	Theoretical component populations	Comparison of Bayesian method to other methods using illustrative simulations	Proposes allocating materiality based on general unified assurance and materiality using Bayesian approach.	n/a theoretical model	E
Carson, Simnett, Trompeter & Vanstraelen (2014)	Australian listed companies with more than one subsidiary	4,335 Australian listed companies with more than one subsidiary over the period 2008-2011	Audit quality (discretionary accruals) is lower and audit fees are higher when component audits are performed by within-network affiliates compared to non-affiliates. In all cases, the principal auditor assumes responsibility for audit.	Small effect on discretionary accruals β = 0.021 Large effect on fees β = 0.888	

Glover & Wood (2014)	US listed subsidiary entities	296 US listed subsidiary entities with matched sample in 2001-2008	Higher audit quality (financial reporting quality score) for group audits of subsidiary entities vs. non-consolidated entities. The assumption is that principal auditors assume responsibility for all group audits in US.	Large effect on financial reporting quality score $\beta = 5.16$	B
Dee, Lulseged & Zhang (2015)	US SEC issuers	211 US SEC issuers that disclose participation of component auditors where required in Form 2 for their first time, compared to matched sample	Audit quality (discretionary accruals) is lower when part of audit is performed by component auditors who are not principal auditors for any SEC issuers and who are disclosing their participation in the audit for the first time. Effect may be attributable to the requirement for disclosure being limited to component auditors that do not have experience as principal auditors of SEC issuers.	Small effect on discretionary accruals $\beta = 0.011$	B
Asthana, Raman & Xu (2015)	US-listed foreign companies	5,164 US-listed foreign companies that have US-based Big N principal auditors, compared to matched sample	Greater geographical distance from the home country and having a large proportion of audit work done outside the US is associated with higher earnings quality (constrains positive discretionary accruals) for US-based Big N principal auditors compared to home country-based Big N principal auditors.	Small effect on discretionary accruals $\beta = -0.0075$	
Downey (2017)	Audit practitioners	6 audit senior staff and managers for interview	Offshoring decisions are driven by cost, turnaround, and freeing local auditors to perform more significant work. Local auditors	n/a interview study	E

		71 first-year auditors and 102 graduate accounting students for experiment	control offshored work and complete unfinished offshored work due to lack of trust and confidence in offshore auditors. Lower performance on completing unfinished tasks perceived as non-significant (offshored work).	*[standard deviations not yet published to evaluate effect size]*	n/a
Gunn & Michas (2017)	US headquartered multinational audit clients	10,143 observations of 2,256 individual U.S.-headquartered multinational audit clients from 2003 through 2015	Audit quality (lower probability of restatement) is stronger when the auditor possesses expertise conducting global group audits, possesses particular expertise in the country where a client has a significant subsidiary, or possesses both types of expertise on an engagement.	Medium effect of global expertise on probability of misstatement $\beta = -0.176$ Medium effect of both global and country expertise on probability of misstatement $\beta = -0.186$	B
Lauck & Bhattacharjee (2017)	Component auditors	Experimental participants in the role of component auditors	Component auditors plan less audit work when they receive less (vs. more) detailed communications from optimistic (vs. skeptical) group auditors.	*Results not yet published to evaluate effect size*	n/a
Sunderland & Trompeter (2017)	IAASB 2013 post-implementation review report + academic literature	Summary of practice issues and related literature	Proposes research questions/approaches to address practice issues and literature gaps, related to areas of concern from PIR: 1) knowledge of component; 2) knowledge of component auditor;	n/a literature review + expert opinion	E

			3) documentation; 4) workpaper review; 5) specification and communication of risk; 6) materiality and scoping		
Graham, Bedard & Dutta (2018)	Theoretical component populations	Theoretical method with illustrative examples	Propose allocating materiality based on "critical events" (# of components that would need to be mostly or totally misstated to aggregate to overall material misstatement) as technique for determining minimum number of components to audit and assurance needed at components.	n/a theoretical paper	E
Downey & Bedard (2018)	Group audit practitioners	Survey of 147 group audit leaders	Client size and global structure contribute to group audits being perceived as challenging. Team continuity and sharing contextual knowledge are negatively associated with group audits being perceived as challenging.	Medium effects Effect of client size $\beta = 0.25$ Effect of client structure $\beta = 0.44$ Effect of contextual knowledge $\beta = -0.39$ Effect of continuity $\beta = -0.29$	D
Mao, Ettredge & Stone (2018)	US SEC issuers	908 observations accept responsibility, 399 decline responsibility from US SEC issuers that disclose participation of component auditors where required in Form 2 in 2009-2013	Principal auditors accepting responsibility are associated with higher audit fees and lower audit quality (misstatements), suggesting the fees are attributable to litigation premiums rather than increased audit effort. Effect may be attributable to the requirement for disclosure being limited to component auditors that do not have experience as principal auditors of SEC issuers.	Medium effect on fees $\beta = 0.252$ Large effect on misstatements $\beta = 1.797$.	

Data Extraction of relevant accountability literature

Literature Pre-2003

Author, Year & Type of accountability	Sector / Population	Design + sample size	Main findings	Effect size[2]	Level
Tetlock (1983a) Process accountability	Known preference	48 undergraduate students (12 per condition)	Subjects reported more liberal (conservative) attitudes when they expected to justify their views to a liberal (conservative).	Large effect, d = 1.311	A
	Unknown preference		Accountability leads to **more complex information processing** (more moderate or neutral attitudinal stands) when people **do not know the preference** of those to whom they feel accountable.	Large effect, compared to unaccountable: d = 1.456 compared to liberal (conservative): d = 1.139 (1.045)	
Tetlock (1983b) Process accountability	Unknown preference	72 undergraduate students (8 per condition)	Accountability prior to the evidence reduces primacy effects and substantially improves free recall of the case material.	Large effect, Recall of pro-defendant evidence: d = 1.662 Recall of anti-defendant evidence: d = 1.643	A
Tetlock (1985) Process accountability	Unknown preference	103 undergraduate students (8 or 9 per condition)	Accountability eliminated the overattribution effect by affecting how subjects initially encoded and analyzed stimulus information.	Large effect, d = 1.08	A

[2] $d \leq 0.2$ is considered a 'small' effect size, $0.2 \leq d \leq 0.5$ represents a 'medium' effect size and $d \geq 0.8$ a 'large' effect size per "Critical Appraisal" section of the Appendix, consistent with Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Tetlock & Kim (1987) Process accountability	Unknown preference	60 undergraduate students (20 per condition)	Preexposure-accountability subjects reported more integratively complex impressions of test-takers, made more accurate behavioral predictions, and reported more appropriate levels of confidence in their predictions than did either no-accountability or postexposure-accountability subjects	Large effect, Integrative complexity: d = 0.835 Prediction accuracy: d = 1.007 Confidence: d = 1.191	A
Tetlock et al (1989) Process accountability	Known preference	325 undergraduate students (8 conditions)	Subjects reported more liberal (conservative) attitudes to a liberal (conservative) audience relative to the unaccountable controls in thought-first conditions.	Medium effect, Liberal: d = 0.782 Conservative: d = 0.621	A
	Unknown preference		When people do not know the views of the audience and are unconstrained by past commitments, they will be motivated to think in relatively flexible, multidimensional ways.	Large effect compared to unaccountable: d = 0.892 Medium effect compared to accountable-liberal (conservative): d = 0.733 (0.524)	
Simonson & Nye (1992) Process accountability	Unknown preference	135 (study 1) + 77 (study 2 & 6) + 42 (study 3): 2 conditions; 201(study 4): 7 conditions; 133 (study 5): 4 conditions	Accountability can reduce the sunk cost effect, but accountability did **not** reduce a variety of decision errors for which the correct response was not known and was unlikely to be identified with more thorough information processing – accountable decision makers choose the option which they believe would result in them being evaluated more favorably.	Medium effect size varies with study: Study 1: d = 0.439 Study 2: d = 0.474 & 0.360 Study 3: d = 0.662 Study 4: d = 0.656 Study 5: d = 0.712 (only one of the four problems to solve is significant) Study 6: d = 0.374	A

Siegel-Jacobs & Yates (1996) Process vs. outcome accountability	Unknown preference	Experiment 1: 67 undergraduate students (3 conditions) Experiment 2: 80 students (2 conditions) Experiment 3: 58 students (3 conditions)	Process accountability encourages people to take more of the available information into account. Outcome accountability had only detrimental effects, increasing the amount of noise (or "scatter") in subjects' judgments and thus leading to lower accuracy overall. Process accountability significantly reduced the tendency to be overly responsive to outcome feedback by reducing the variability in judgment unrelated to the target event.	Experiment 1: medium effect, view of cues, process vs. unaccountable: d = 0.558, 0.709, 0.558; process vs. outcome: d = 0.660; outcome vs. unaccountable: d = 0.697 Experiment 2: medium effect, total time, accountable vs. unaccountable: d = 0.596	A
Markman & Tetlock (2000a) Process accountability vs. Outcome accountability	Known preference	51 undergraduate students (3 types of accountability)	Process accountability amplified assimilative counterfactual thinking, whereas outcome accountability attenuated it. Relative to outcome-accountable participants, process-accountable participants thought they did a worse job when they nearly lost and thought they did a better job when they nearly won. Relative to outcome-accountable participants, process-accountable participants also were less willing to reinvest money when they nearly lost and were more likely to reinvest money when they nearly won.	Large effects: **Counterfactual thinking**: Process vs. unaccountable: d = 0.923 Unaccountable vs. outcome: d = 0.707 Process vs. outcome: d = 1.194 **Affect**: Process vs. outcome: d = 0.775 (near loss; near won not significant) **Self-rated decision quality**: Outcome vs. process: d = -0.95 (near won); 0.981 (near loss) Unaccountable vs. process: d = 0.707 (near loss) **Reinvestment decision:** Outcome vs. process: d = 0.943 (near lost); 0.779 (near won) Unaccountable vs. process: d = 0.981 (near lost) **Acceptance of responsibility**: Process vs. outcome: d = 0.816 (near lost)	A

de Dreu et al (2000) Process accountability	Unknown preference	Study 1: 102 undergraduate students (2 conditions) Study 2: 125 (4 conditions with control)	Accountability reduced fixed-pie perception during face-to-face negotiation and produced more integrative agreements; accountability is effective during the encoding of outcome information.	No effect on social motivation Large effect on Joint outcome: d = 0.963 Medium effect on Fixed-pie perception: d = 0.561	A
Kramer et al (1993) Outcome accountability	Unknown preference	104 MBA students (4 conditions)	Preference for equality of outcomes will be stronger when interpersonal accountability between negotiators is high.	Medium effect, concern about the other party's outcome, high accountable vs. low accountable: d = 0.415; Perception of fair outcome: d = 0.590; satisfaction: d = 0.645; cooperative of relationship: d = 0.462	A
Brtek & Motowildlo (2002) Process accountability vs. Outcome accountability	Unknown preference	338 undergraduate students (4 conditions)	Accountability has the potential to improve decision quality, but primarily for procedure accountability, not outcome accountability.	Large effect between process and outcome accountability on Decision validity: d = 0.909 Medium effects on decision validity between: Outcome vs. unaccountable: d = -0.364 Process vs. unaccountable: d = 0.546	A
Tetlock & Boettger (1994) Process accountability	Unknown preference	60 undergraduate students (4 conditions)	Accountable subjects confronted by an off-the-market drug that posed moderate or high risk were especially likely to procrastinate, to buckpass, and to think in integratively complex ways about the problem, notwithstanding the fact that many more lives would be saved than lost.	Large effect, Integrative, complex thinking: d = 0.968 Omission bias: d = 0.837 (effect sizes for buckpassing, acceptance and difficulty in rating cannot be calculated due to lack of SD data)	A

Markman & Tetlock (2000b) Process accountability	Known preference	163 undergraduate students (8 conditions)	Participants who were made accountable for a stock investment decision that resulted in an outcome caused by unforeseeable circumstances were particularly likely to generate counterfactual excuses and to deny responsibility for the outcome of their choices and minimize their perceptions of control over the decision process.	Medium effects between accountable / unforeseeable vs. other conditions: Number of excuses: d = 0.590 Felt responsibility: d = 0.552 Felt control: d = 0.492	A
Tetlock (2000) N/A	N/A	650 middle managers in 3 public sector organizations and 3 private sector organizations	Conservative managers with strong preferences for cognitive closure were most likely (a) to defend simple heuristic-driven errors such as overattribution and overconfidence and to warn of the mirror-image mistakes of failing to hold people accountable and of diluting sound policies with irrelevant side-objectives; (b) to be skeptical of complex strategies of structuring or coping with accountability.	Medium effects of process (outcome) accountability on cognitive bias and organizational corrective: R^2 = 0.11 (0.13)	D

Literature Post-2003

Author & Year	Sector / Population	Design + sample size	Main findings	Effect size	Level
Zhang & Mittal (2005) Process accountability vs. Outcome accountability	Unknown preference	157 undergraduate students (8 conditions)	Accountability type moderates the perceived difficulty of choosing from worse than reference or better than reference options: the difference in perceived difficulty for deciding between such options is attenuated under procedural accountability but enhanced under outcome accountability.	Medium effect, Accountability type: d = 0.443 Accountability degree: d = 0.522	A
Davis et al (2007) Process accountability vs. Outcome accountability	Unknown preference	135 undergraduate students (3 conditions)	Outcome accountability was positively related to performance during the first phase. Process accountability was positively related to performance improvement in the second phase. Accountability interacted with learning orientation and avoidance orientation to predict performance improvement in the second phase. The accountability manipulations had greatest impact on individuals low in avoidance orientation.	Outcome accountability and time-1 performance: β = 0.289 Process accountability and time-2 performance improvement: β = 0.159	A
Langhe et al (2011) Process accountability vs. Outcome accountability	Unknown preference	131 (study 1) + 87 (study 2) undergraduate students (4 conditions) 86 (study 3) undergraduate students (3 conditions)	Process accountability, relative to outcome accountability, consistently improves judgment quality in relatively simple elemental tasks. However, this performance advantage of process accountability does not generalize to more complex configural tasks. The extent to which process and outcome accountability affect judgment quality depends on individual differences in analytical intelligence and rational thinking style.	Medium effect, judgment error in elemental task, process vs. outcome: d = -0.657 in study 1; d = -0.703 in study; d = -0.638 in study 3 Large effect, epistemic motivation: d = 1.524 Large effect, judgment quality (cue abstraction) for low-rational participants, d = 0.999 (0.815)	A

Simões (2011) Process accountability vs. Outcome accountability	Unknown preference	88 professional negotiators from service and industry sectors (4 conditions)	Non-accountable negotiators and negotiators held accountable only for outcome tend to get lower gains than those obtained by the negotiators under process accountability, although they are prone to divide gains more equitably.	Large effect, **joint gain:** Process accountability vs. unaccountable: d = 1.473 Outcome accountability vs. unaccountable: d = 1.505 **Accuracy of judgment:** Process accountability vs. unaccountable: d = 1.384 **Equitable gain:** Outcome accountability vs. unaccountable: d = 0.528	A
Silva & Simões (2011) Process accountability vs. Outcome accountability	Unknown preference	251 students (3 conditions with control)	Individuals under process accountability tend to be more severe in their judgment of the acceptability of other's ethically dubious decisions than the non-accountable ones and those who are under outcome accountability, but only when the decision's consequences are displayed as positive or neutral. This effect does not occur when the consequences of the decision are seen as negative.	Medium effects, acceptance of ethical decision when faced with **positive consequence**: Process vs. outcome: d = -0.560 Process vs. unaccountable: d = -0.652 Large effects, with **neutral consequence**: Process vs. outcome: d = -0.918 Process vs. unaccountable: d = -1.741	A
Hall & Ferris (2011) N/A	N/A	2 organizations (203 employees from a large public university and a medium-sized, family-owned business)	Some level of accountability is essential, but that the relationship between accountability and extra-role behaviors is non-linear in nature, assuming a U-shaped form.	Medium effect of accountability on contextual performance: R^2 = 0.24 Large effect of accountability on organizational citizen behaviour: R^2 = 0.36	D
Vieider (2011) Process accountability	Unknown preference	166 students (4 conditions)	Accountability is found to reduce preference reversals between frames, for which incentives have no effect. In a choice task between simple and compound events, accountability increases the preference for the normatively superior simple event.	Medium effect, preference reversal: r = 0.16 Medium effect, choice of simple prospect: r = 0.27	A

Pitesa & Thau (2013) Process accountability vs. Outcome accountability	Known preference	Study 1 (3): 152 (104) undergraduate students (4 conditions); Study 2: 63 lawyers (2 conditions)	Power makes agents more likely to behave in a self-serving manner under moral hazard, but only when the appropriate accountability mechanisms are not in place. Holding agents accountable for their decision-making procedure reduces the level of self-serving decisions under moral hazard and also curbs the negative consequences of power.	Large effect, procedural vs. outcome: d = 0.866 (study 1); 0.661 (study 2); 1.183 (study 3)	A
Connolly & Kausel (2013) Process accountability	Unknown preference	242 (study 2) (4 conditions with control)	External accountability demands do not reduce, and may exacerbate, the decoy effect. Seeking justification to others (responding to accountability demands) maintains or exacerbates the decoy effect; seeking justification to oneself (responding to regret salience) reduces or eliminates it.	Medium effect, likelihood of being subject to decoy effect, accountability vs. unaccountable: d = 0.531 Concern with justification to others, d = 0.560 Decision making process, d = 0.429 Large effect, Length of written accounts of decision process, d = 1.139	A
Self et al (2015) Process accountability vs. Outcome accountability	Unknown preference	297 undergraduate students (3 conditions)	Under identity-conscious accountability, participants exhibited pro-female and pro-minority bias, particularly in the white-male-advantage applicant pool. Under identity-blind accountability, participants exhibited no biases and candidate qualifications dominated interview recommendations.	Medium effect, IC accountability vs. IB accountability, d = 0.310 Trust, IC accountability vs. unaccountable: d = 0.294	A

Pit-ten et al (2016) Perceived accountability	Unknown preference	38 primary school teachers from 10 schools (27 vignettes, 2 conditions, 3 time)	Increased levels of accountability are associated with not only increased decision accuracy but also reduced metacognitive judgment bias, especially in regard to minority students.	Medium to large effect, **Decision accuracy**, accountability vs. unaccountable, d = 0.67 (T2) & 1.00 (T3) **Bias index**, d = 0.55 (T2) & 0.92 (T3) **Absolute accuracy scores**, d = 0.53 (T2) & 0.60 (T3)	B
Patil et al (2017) Process accountability vs. Outcome accountability	Unknown preference	Study 1: 79 undergraduate students (4 conditions) Study 2 (3): 209 (357) undergraduate students (8 conditions)	Process accountability encourages conformity errors and outcome accountability promotes deviation errors. Self-focused norms reduce the effect of process accountability on excessive conformity. Other-focused norms reduce the effect of outcome accountability on excessive deviation.	Large effect, feeling of responsible, process vs. outcome: d = -5.855	A
Häusser et al (2017) Process accountability vs. Outcome accountability	Unknown preference	147 students (4 conditions)	Outcome accountability had a negative effect on quantity of ideas; process accountability extended the idea generation process. Any type of accountability had a negative effect on uniqueness of ideas, did not affect the quality of the idea that was selected, and increased stress.	Small effect, quantitative performance, outcome accountability vs. no-outcome-accountability: $\eta^2 = 0.052$ Uniqueness of ideas, $\eta^2 = 0.030$ Time taken to generate ideas, $\eta^2 = 0.034$ Large effect on stress, outcome accountability vs. no-outcome-accountability: $\eta^2 = 0.073$; process accountability vs. no-process accountability: $\eta^2 = 0.174$	A

Scholten et al (2007) Process accountability	Unknown preference	159 students (2 conditions)	Groups under process accountability experienced greater need for more information, repeated unshared information more often, and more often chose the correct decision alternative.	Medium effect, information sufficiency, process accountable vs. unaccountable: $\eta^2 = 0.10$ Shared and unshared information: $\eta^2 = 0.06$ Repeat of shared and unshared information: $\eta^2 = 0.07$ Decision quality: $d = 0.583$	A

Data Extraction of relevant accountability literature in auditing

Literature Pre-2003

Author, Year & Type of accountability	Sector / Population	Design + sample size	Main findings	Effect size	Level
Johnson et al (1991) Process accountability	Unknown preference	101 practicing auditors from one Big 6 firm (2 conditions)	Auditors in the accountable group displayed higher consensus and self-insight than auditors in the control group. The results suggest that motivation induced by naturally occurring elements of the auditor's decision environment can mitigate shortcomings in auditor judgments.	Medium effect for consensus, accountable vs. unaccountable: d = 0.502. Self-insight: d = 0.515	A
Kennedy (1993) Process accountability	Unknown preference	58 executive MBA students and 171 auditors (6 conditions)	Executive M.B.A. subjects exhibited significant recency effects while auditors familiar with this task did not. When accountability was imposed on the M.B.A. subjects, no recency effects were noted.	Medium effect for recency effect for MBA participants, accountable vs. post accountable and unaccountable: d = 0.680	A
Evans III & Rau (1994) N/A (implicit accountability)	Known preference	Experiment session 1: 13 MBA students and 13 doctoral students; Experiment session 2: 15 MBA students and 15 doctoral students (2 roles in market)	Individuals value accountability beyond what it may contribute to their wealth (i.e., beyond decision facilitating and decision influencing demand).	Medium effect, choice of accountability system: d = 0.744	A

Kennedy (1995) Process accountability	Unknown preference	Experiment 1: 147 MBA students and 161 auditors (9 conditions) Experiment 2 (3): 86 executive MBA students & 322 auditors from a Big 6 firm (143 undergraduate students, 6 conditions)	Curse of knowledge bias is not mitigated by Accountability.	No effect, curse of knowledge, pre-accountable vs. post-accountable (unaccountable): d = 0.119 (0.116)	A
Hoffman & Patton (1997) Process accountability	Unknown preference	44 auditors of a Big 6 auditing firm (2 conditions)	Accountability did not exacerbate the dilution effect for auditors but fraud risk judgments became more conservative.	Nil effect, dilution effect Medium effect, conservatism in fraud judgments, accountable vs. unaccountable: d = 0.482	A
Glover (1997) Process accountability	Unknown preference	156 auditors from 4 Big 6 firms (8 conditions)	Accountability had no significant impact on the dilution effect.	Nil effect, dilution effect, accountable vs. unaccountable: $\omega^2 = 0.00$	A
O'Connor (1997) Process and outcome accountability	Known preference	334 undergraduate students (4 conditions)	Solo negotiators respond competitively when they are accountable to constituents; teams did not respond to accountability pressures by behaving contentiously as solos did. Solos who negotiate under conditions of high accountability consider themselves to be at a disadvantage in the negotiation even before the negotiation begins.	Medium effect, self-rated competitiveness, high vs. low accountability group: d = 0.504 Relative gain, high vs. low accountability solo: d = 0.586 Large effect, self-rated accountability, team vs. solo: d = 0.951	A

Peterson & Thompson (1997) Process and outcome accountability	Known preference	240 participants (120 undergraduate students and 120 friends, 6 conditions)	Teams of strangers reaped a greater share of the joint profit than did teams of friends when teammates were accountable to a supervisor as opposed to negotiating strictly on their own behalf. Teams of friends felt least cohesive when they were accountable to a supervisor, whereas teams of strangers felt most cohesive when they were accountable.	Medium effect on performance (profit) from teams of strangers, accountability vs. unaccountable: d = 0.403	A
Cohen & Trompeter (1998) Process accountability	Known preference	74 audit managers from 2 Big 6 firms (4 conditions)	The type of client (current or potential) and the type of partner (more or less aggressive with respect to practice development) significantly affected the auditors' judgments. Subjects in the "current client" condition, as well as those who are accountable to a more aggressive partner, are more likely to recommend bidding for the client.	Medium effect, bidding on the client, type of partner profile: d = 0.460	A
Tan & Kao (1999) Process accountability	Unknown preference	105 auditors from 2 Big 6 firms (2 conditions)	Accountability may not improve performance for a low-complexity task, for a medium-complexity task where the individual lacks the requisite knowledge, and for a high-complexity task where the individual lacks either the requisite knowledge or problem-solving ability.	No main effect of accountability for low-complexity task Medium effect of accountability for medium-complexity task when knowledge is high: d = 0.433 Low-medium effect of accountability for high-complexity task when both knowledge and problem-solving ability are high: d = 0.308	A

Swinney (1999) N/A	Unknown preference	29 auditors from 3 different national accounting firms (2 conditions + control)	Auditors over-rely on expert system output and rely to a greater degree on output which is negative versus output which is positive.	Large effect on acceptability heuristics, positive vs. negative expert system: d = 1.533	A
Asare & Trompeter (2000) Process accountability	Unknown preference	91 auditors from 2 Big 6 firms (4 conditions)	Accountability leads to an increase in the extent and breadth of testing but does not affect the depth of testing. Further, accountability leads to an increase in the testing of errors but results in a decrease in the testing of non-errors.	Medium effect, extent of testing, accountable vs. unaccountable: d = 0.568 Large effect, breath of testing via number of hypotheses tested (proportion of testing effort on target hypothesis): d = 0.826 (0.628) Large effect, focus of testing: d = 0.995 Medium effect, decision performance: d = 0.617	A
Kaplan & Lord (2001) Outcome accountability	Known preference	30 audit managers from one international public accounting firm (2 conditions)	Accountability is associated with greater agreement between self-judgments and judgments the auditor perceives superiors would make. The accountability treatment did not significantly affect the auditors' processing of information.	Large effect, mean absolute difference for National Partner judgment, accountable vs. unaccountable: d = 0.886 No effect on information processing	A

Turner (2001) Outcome accountability	Known preferences	93 auditors from 2 Big 5 public accounting firms (6 conditions)	Auditors facing reviewers who expressed concern about auditors spending time looking for inconsistent evidence examined fewer evidence items and followed a more client-prompted search than those facing reviewers who expressed concern about auditors' ready acceptance of client explanations without adequate justification and those facing reviewers who expressed no specific concern.	Medium effect, search pattern rank (probability weighted) measure, type of reviewer: d = 0.795 (1.807) Medium effect, amount of search: d = 607 Medium effect, average time of search: d = 0.357	A
	Unknown preferences		Auditors who were held accountable to a reviewer with an unknown preference generally responded as if the reviewer maintained a skepticism preference.	No effect, search pattern rank (probability weighted) measure: d = 0.125 (0.307); amount of search: d = 0.276; average time of search: d = 0.057	
Tan et al (2002) Process accountability	Unknown preferences	Based on Tan and Kao (1999): 105 auditors from 2 Big 6 firms (2 conditions)	Accountability and knowledge jointly moderate the relation between task complexity and performance. Performance declines with increasing complexity only under combinations of low knowledge and high accountability, or low accountability and high knowledge. Performance is unaffected by increasing task complexity when auditors have high knowledge and high accountability, or have low knowledge and low accountability.	No main effect of accountability	A

Auditing Literature Post-2003

Author, Year & Type of accountability	Sector / Population	Design + sample size	Main findings	Effect size	Level
DeZoort et al (2006) Outcome accountability	Unknown preferences	167 auditors from 5 public accounting firms – 3 Big 4 firms, one national firm and one regional firm (8 conditions)	Auditors under higher levels of accountability pressure provided more conservative materiality judgments and had less judgment variability than auditors under lower levels. Accountability strength was positively related to the amount of time spent on the task, explanation length, and consideration of qualitative materiality factors.	Large effect, planning materiality: d = 0.931 Proposed adjustment: d = 0.812 Judgment variability of planning materiality: d = 0.850 Judgment variability of proposed adjustment: d = 0.700 Time, d = 0.499	A
Bagley (2010) Outcome accountability	Unknown preferences when single accountability; known preferences when multiple accountability	136 auditors from 3 public accounting firms (6 conditions)	When auditors are accountable to multiple superiors they experience significantly more negative affect than when accountable to one superior. Increased negative affect can harm low-complexity audit task performance.	Medium effect, negative affect: d = 0.443	A
Kim & Trotman (2015) Process vs. outcome accountability	Unknown preferences	32 students and 31 auditors from Big 4 accounting firms (4 conditions)	Auditors show greater levels of professional scepticism when they are expected to justify their judgment process, rather than their final judgments. The professional scepticism of novice auditors improves to a greater extent than that of more experienced auditors under process accountability.	Large effect, counter-explanation: d = 0.893 Timing of tentative judgment: d = 0.580 Bias in final judgment: d = 0.664	A

Cianci et al (2017) Process vs. outcome accountability	Unknown preferences	93 partners (3 conditions)	Partner identification—in the form of either disclosure or signature—yields more aggressive write-down judgments through its negative impact on partners' self-reported measures of commitment to the profession and, in turn, commitment to the public.	Medium effect, recommended inventory write down, partner identification vs. no identification: d = 0.447	A
Hoos et al (2017) Process accountability	Unknown preference	47 senior auditors and partners (3 conditions)	Notwithstanding the difference in the audiences to which auditors are accountable, there is no difference in the judgment process. In terms of their judgment outcome, auditors in the joint audit setting were the least skeptical in their judgment of the going concern assumption.	Medium effect, internal review vs. unaccountable: d = 0.527 Joint audit vs. internal review: d = -0.776	A

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