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The Joint Effect of Mindsets and Consequence Awareness on Task Performance

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THE JOINT EFFECT OF MINDSETS AND CONSEQUENCE AWARENESS ON TASK PERFORMANCE

by

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ABSTRACT

Auditors face strong incentives to execute tasks efficiently and meet deadlines; these conditions are both conducive to – and rewarding of – implemental mindsets. However, an implemental mindset may deprioritize careful analysis and thoughtful decision-making, leading to suboptimal performance and audit quality. Conversely, deliberative mindsets promote critical thinking and open-mindedness – and research suggests auditors in a deliberative mindset perform complex tasks more effectively than auditors in an implemental mindset. Additionally, auditors encounter frequent reminders about the consequences of audit failures. This study examines how these factors (i.e., mindsets and consequence reminders) jointly influence auditors' performance on complex tasks. I predict that consequence reminders will be helpful to auditors in an implemental mindset but counter-productive to auditors in a deliberative mindset. Consistent with theory, results from a 2x2 experiment reveal that undergraduate student participants in a deliberative mindset outperform those in an implemental mindset in an error identification task. However, I find no evidence that a consequence reminder influences performance or moderates the effect of mindsets in this task. My results contribute to the emerging literature on the benefits of deliberative mindsets and can help guide future research in this area.

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INTRODUCTION

Auditors play a critical role in helping investors feel more secure in their financial decisions and ensuring the accuracy and reliability of financial reporting. They face the competing pressures of completing a profitable and timely audit while complying with strict quality and regulatory standards. Auditors are also routinely exposed to reminders about the importance of diligence and professional skepticism as well as the consequences of audit failures. While these consequence reminders are likely intended to promote audit quality, it is unclear whether and how they help or hinder in this regard. On the one hand, consequence reminders may re-focus auditors on accurate financial reporting. On the other hand, these reminders may serve as a distraction from careful analysis and thoughtful decision-making. These effects may also differ depending on auditors' mindsets. This study therefore examines whether the effects of consequence reminders are different for auditors who adopt deliberative versus implemental mindsets.

Research shows that mindsets influence auditor performance on complex tasks (e.g., Griffith, Hammersly, Kadous, and Young 2015). Namely, implemental mindsets are characterized by cognitive tuning, partial analysis of information, and a comparatively reduced receptivity (close-mindedness) to available information. Conversely, deliberative mindsets focus individuals on objectives, desires, or possibilities when making decisions; in this mindset, people are more generally open to all available information (e.g., Gollwitzer 2012, 537). These mindsets and the influence of consequences can significantly shape auditors' processes, ultimately impacting the quality of their risk assessments, evidence evaluation, and the overall effectiveness of their judgments. The presence or absence of a consequence reminder may also impact

auditors' approach to their work, encouraging heightened attention and consideration of potential outcomes. Griffith et al. (2015) demonstrate that auditors in deliberative mindsets outperform auditors in implemental mindsets on complex tasks. I extend this research by examining how these two mindsets influence auditor's reactions and receptiveness to consequence reminders.

Understanding how the joint effects of consequence reminders and mindsets can affect task performance will help auditors improve their decision-making processes, enhance the accuracy of their audits, and ultimately bolster the trust and confidence of their clients and the public in financial reporting. There have been other studies surrounding deliberative and implemental mindsets and their impact on specific tasks in a successful audit. This study, by adding in the additional variable of a consequence reminder, will investigate whether it is a good or bad idea to have this constant presence of a consequence reminder or if it actually hinders the process. In other words, are we aiding the auditor's task performance by reminding them of consequences, or are we distracting them from the task? This brings us to the primary objective, which is to discern the most conducive mindset for the ideal performance on complex tasks and whether that includes a reminder regarding a consequence. The research explores whether auditors' performance on complex tasks is best done in a deliberative mindset that prioritizes thoughtful decision-making or an implemental mindset where efficiency, accuracy, and prompt execution occur. Furthermore, the study examines how introducing a consequence reminder impacts performance within each mindset, investigating whether it hinders or improves task performance.

This research is done on students at a large public research university in a Principles of Financial Accounting course. In the experiment, participants assume the role of a party planner

and review a playlist for an upcoming party. This playlist contains several seeded errors, and I measure performance on this task by measuring the number of seeded errors participants correct during the experimental task. I manipulate the presence or absence of a reminder about the consequences of playing inappropriate music at the party. I also randomly assign participants to experimental conditions where they complete a task that induces either an implemental mindset or a deliberative mindset. I use this experiment to provide insights into the influence of these variables on the students and their task performance. The task is designed to examine the cognitive reactions to task performance with different mindsets and the consequence reminder.

Following prior literature, I predict and find that participants in the deliberative mindset condition perform more effectively than those in the implemental mindset condition. For example, participants in the deliberative mindset condition remove more inappropriate songs and retain more appropriate songs than participants in the implemental mindset condition. Inconsistent with my predictions, I find no evidence that consequence reminders influence performance on the judgmental experimental task, regardless of whether participants are in the deliberative or implemental mindset condition.

This thesis is structured to answer the following questions: Does a deliberative mindset offer better performance on complex tasks by fostering creative thinking and thorough analysis? How does introducing consequence reminders impact the performance of individuals operating under a deliberative versus an implemental mindset on complex tasks? It will answer those questions by reviewing existing literature on deliberative and implemental mindsets and audit failure. It will then formulate hypotheses, describe the research methodology, analyze the data,

and conclude and interpret the findings with the ultimate objective of understanding the best cognitive approach to high-quality audit results.

This research will contribute to the field of auditing by examining the interplay between mindsets and consequence reminders. The study reaffirms that deliberative mindsets outperform implemental mindsets in complex tasks. However, the unexpected findings on consequence reminders have little impact on performance and merit further exploration. Auditing firms should shift their focus from these reminders to the influence of mindsets in their training and strategies. By exploring these aspects in my thesis, this will provide a foundation for further research. These findings contribute not only to academic understanding but also to auditing and more refined guidance toward improving audit quality.

LITERATURE REVIEW

Deliberative and Implemental Mindsets

Prior research in psychology and auditing examines the implications of deliberative and implemental mindsets. In particular, Griffith, Hammersley, Kadous, and Young (2015) explain how understanding these mindsets can help improve audit quality. The authors recognize that it is first essential to understand what a mindset is. "Mindsets are not merely a template or framework for approaching a particular type of task; they represent a more global readiness to respond in a particular way" (Griffith et al. 2015, 51). Mindsets are independent of the action or task. The mindset is the predisposition going into the action or task that guides your decisions and actions moving forward. This is why it is vital for us to recognize the task at hand and how to alter our mindset to accomplish that task in the most appropriate cognitive way.

Deliberative mindsets and implemental mindsets each have their own relative advantages in promoting effectiveness and/or efficiency in different types of tasks. Gollwitzer (2012, 537) notes "research shows that the deliberative mindset is characterized by cognitive tuning toward desirability-related and feasibility-related information, and finally, by a heightened general receptivity to available information." Stated differently, the deliberative mindset focuses on what we want or desire and what is possible or feasible when making decisions. In this mindset, people are more generally open to all available information. In contrast, the implemental mindset is "characterized by cognitive tuning toward implemental thoughts and information, by an overly optimistic analysis of feasibility related information and a partial analysis of desirability-related information and finally, by a comparatively reduced receptivity (close-mindedness) to available information" (Gollwitzer 2012, 537). This mindset focuses more on what is possible and less on

what we want. Individuals with an implemental mindset are also less receptive to new information and may have a closed-minded outlook. Focusing on the different attributes of each mindset can help optimize the desired results in an audit and the different tasks associated with the audit.

According to Gollwitzer and Bayer (1999), actions are goal-directed, and mindsets play a crucial role in shaping these actions. They differentiate between deliberative and implemental mindsets, noting that while a deliberative mindset involves impartial analysis of desirability-related information, an implemental mindset focuses on the objective analysis of feasibility-related information (Gollwitzer and Bayer, 1999, 405). This distinction underlines the importance of an objective and unbiased approach in the implemental mindset. However, solely relying on cognitive tuning in an implemental mindset may not suffice for accurate and rational decision-making. Instead, a balance between the thorough, unbiased analysis of the deliberative mindset and the goal-orientated focus of the implemental mindset may be necessary for ideal decision-making in complex tasks.

Gollwitzer and Bayer (1999, 403) further note "The deliberative and implemental mindsets are seen as functional to effective goal pursuit, as they provide the cognitive orientations most useful to solving the tasks of choosing between potential goals and implementing chosen goals, respectively". Thus, completing a goal, action, or task can be broken into two processes, and both are just as important. The first is to consider the different alternatives to obtain that goal and choose the best alternative, where the deliberative mindset should be utilized. The second process is to perform the steps to accomplish the set goal without distractions as accurately as possible, where the implemental mindset becomes relevant to the

process. If we were to break down an audit, we can see which of these steps coincide with each task. At the beginning of the audit, many tasks can be better done in the deliberative mindset, step one of the process. Step two can be the tasks that require a system and closed-minded outlooks, such as expense testing and three-way tests. Knowing the characteristics of each mindset, the cognitive tuning, and what action needs to be accomplished can help ensure that we improve the audit results.

If Auditors use implemental mindsets in conjunction with deliberative mindsets, they can improve the quality and profitability without sacrificing accuracy and reliability. Implemental mindsets are particularly helpful with tasks that require rapid problem-solving, practical solutions, and timely execution, such as obtaining financial documents, conducting routine and/or non-judgmental substantive tests, performing inventory counts, and testing the effectiveness of internal controls. In contrast, an auditor with a deliberative mindset focuses on analysis and critical thinking. Auditors will need this mindset when utilizing their professional judgment over the entire audit. For example, Griffith et al (2015) note "We expect that a deliberative mindset can help other decision-makers, including investors and managers, make higher quality decisions by improving their critical analysis of a complete set of information." This is particularly important in tasks such as assessing risks, determining materiality thresholds, evaluating the design of controls, and auditing complex estimates or other management judgments. Consistent with this, Griffith et al (2015) find that deliberative mindsets improve audit quality concerning complex estimates – and attribute this result to auditors taking in more information and evaluating goals before acting.

Research also examines how mindsets influence self-regulating behavior. Armor and Taylor (2003, 88) find that a deliberative mindset leads to more cautious and sometimes pessimistic expectations toward task performance while an implemental mindset fosters optimism and often results in enhanced task performance. Although all previous theories consistently favor deliberative mindsets for complex tasks, their particular study presents a scenario where implemental mindsets emerge as the more effective choice. The difference is the introduction of self-regulation, or understanding and managing one's own behavior, as a variable. They describe the implemental group as optimistic about task difficulty and the deliberative group tends to view tasks as more challenging and have a pessimistic view. (Armor and Taylor, 2003, 88) This perspective suggests that the deliberative group might find the task too difficult, while the implemental group will have more confidence in their ability to accomplish the task. Consequence awareness is a form of self-regulation brought on by other people. This is because it focuses your attention, adds understanding to the consequence and influences your behavior.

Auditor Awareness of Consequences of Audit Failures

An audit failure occurs when an audit firm issues an inaccurate audit opinion and fails to comply with the auditing standards. The consequences of audit failures are devastating – and often catastrophic – for audit firms. In an extreme example, failures in the Enron and WorldCom audits in the early 2000s led to the demise of Andersen, a then-Big 5 accounting firm. The fallout from these bankruptcies and the subsequent collapse of Andersen was so dramatic that the United States Congress intervened to regulate the auditing profession through the Sarbanes-Oxley Act of 2002. This legislation has reshaped the entire public company auditing industry. Even though

we will always know the names of the offenders involved in this scandal, the effects had remarkable consequences for innocent bystanders and other stakeholders (e.g., Rahman, Ying, Zhu, and Ji, 202).

All this is to say that negative or positive consequences are inherent to our actions. An audit serves as a means for investors to feel assured in their investments. While the pressure of consequences is ever-present in auditing, is there a need for constant reminders throughout the process? In an article in *The British Accounting Review* titled "What do we know about audit quality?" Jere R. Francis points out, "In sum, the ex post evidence of audit failures from SEC sanctions, litigation rates, business failures, and earnings restatements all point to a very low failure rate, much less than one percent annually." (Francis) Although this statistic reflects a very low failure rate, it does not diminish the significance of the consequences of audit failures. The constant emphasis on the circumstances of audit failures, despite their rarity, could lead auditors to adopt an overly cautious approach, diverting their attention from the task and hindering their ability to make balanced, objective judgements.

The legal liability of an auditor is another consequence of an audit failure. However, performing higher quality audit procedures may not matter in the legal system when the consequences of an auditors' failure to detect complex, intricate, or intentionally concealed misstatements are severe. For example, Kadous (2000, 339) notes, "participants evaluated auditors more positively when the auditor performed a higher quality audit only with moderate consequences of audit failure. When the consequences of audit failure were severe, participants evaluated auditors as if they did not consider audit quality." This means that even if we do what is considered a high-quality audit, severe consequences negate that effect, and it will be as if we

did not do the high-quality audit at all. Knowing this and how often audit failures occur annually, should the focus be on the consequences or the correct mindset that fosters the needed behaviors?

HYPOTHESIS DEVELOPMENT

Optimization of Complex Tasks

My first hypothesis draws upon differences between deliberative and implemental mindsets, as discussed in the work of Griffith et al. (2015). Their study explores how different cognitive orientations can influence auditors' effectiveness, where they focus on complex auditing tasks. They conclude that a deliberative mindset, characterized by a broad focus of attention, recognition of all presented information, and independent critical thinking, is more suitable for complex auditing tasks (Griffith et al. 2015). In contrast, implemental mindsets are more focused on the task and efficient execution. This mindset often adopts a closed-minded outlook and is unwilling to incorporate all possible scenarios. With something as complex as an accounting estimate, a deliberative mindset will put the auditor in the correct cognitive orientation to perform this task accurately.

Their study contributes to the world of auditing and the psychological research of these mindsets on cognitive orientations. They have refined the methods for manipulating these mindsets in research, offering a more practical approach compared to the time-intensive techniques of previous research. (Griffith et al. 72) Building upon this foundation, this study employs their efficient manipulation tactics to test the following hypothesis:

> H1: Auditors perform better on complex tasks in a deliberative mindset versus an implemental mindset.

Effectiveness of a Consequence Reminder

Poor audit quality can result in what is widely known as audit failure. The second hypothesis was found by analyzing the research of Kadous (2000), where she explored the effects of audit quality and the severity of consequences on juror evaluations of auditors. Her research provides valuable insight into how the perceived severity of audit failure consequences can shape auditors' evaluations. If the consequence of audit failure is severe, jurors tend to assess higher standards of care. It doesn't matter if the audit was of high quality or not. (Kadous 2000) Her research shows the importance of understanding the consequences of audit failure. It also suggests that the awareness of consequences can significantly influence behavior and evaluations.

I posit that consequence awareness will influence behavior differently, depending on an individual's mindset. Theory suggests that individuals in an implemental mindset tend to focus narrowly on task execution and task completion. Therefore, auditors who adopt an implemental mindset may become inclined to (perhaps inadvertently) lose sight of audit objectives – and the importance of ensuring the financial statements are free from material misstatement. If so, I predict that raising awareness of big-picture consequence among auditors who have adopted an implemental mindset will induce a broader focus on audit objectives – and help sensitize auditors to issues that they might otherwise overlook if they are primarily focused on task execution. In this way, consequence reminders might prevent auditors who have adopted an implemental mindset from "losing the forest through the trees". On the other hand, research suggests that individuals who have adopted a deliberative mindset will already be focused on big picture while executing tasks. For individuals who are already focusing effort on broad objectives while

attending to details of the task, I predict that a consequence reminder is likely to serve as a distraction. If so, individuals will be more likely to reallocate cognitive resources from the most cognitively demanding task to cope with this distraction. Since focusing on big-picture issues is likely to be more cognitively demanding than executing mechanical audit tasks, I predict that a consequence reminder will hinder auditors' abilities to identify seeded errors in a complex task. The notion that auditors will struggle to complete tasks when re-allocating cognitive resources away from the details of task execution further reinforces this prediction. This leads to my second hypothesis:

> H2: Focusing auditors on the consequences of their performance will improve performance when auditors assume an implemental mindset but hinder performance when they assume a deliberative mindset.

RESEARCH METHODS

I administer a fully-factorial 2x2 experiment using a Qualtrics survey. The survey involves a task where participants assume the role of a party planner and make final edits to a music playlist that was previously created by one of their co-workers. This is to simulate an auditor auditing their client's financial statements to find errors. All participants read background information about the company and their role as a party planner. Participants are told that clients can make special requests for songs, but that the party planner's job is to ensure that no blatantly inappropriate or blatantly out-of-place songs are played at the party. Participants are told that it is their job to ensure that the final playlist consists of exactly 20 accurately chosen songs that match the party atmosphere in terms of mood, energy, and suitability. Prior to reviewing the list, participants are also told that the list may not be entirely error-free due to data transfer issues or human error (or both). Consistent with this, the initial playlist that all participants receive contains several errors. For example, the playlist has only 18 songs, even though 20 songs are required given the length of the party. Additionally, three of these 18 songs are clearly inappropriate for the party and blatantly inconsistent with the theme of the other (appropriate) 15 songs. Participants first identify inappropriate songs to remove from the playlist. Participants then, on a separate screen, have the opportunity to add new songs to the playlist using a list of backup songs.

I randomly assign participants into either the implemental mindset or deliberative mindset condition at the beginning of the survey. I ask participants in the deliberative mindset condition to list three pros and three cons of a professional summer internship. This prompt encourages the participant to ponder a goal and allows them to consider both feasibility-related

and desirability-related information, fostering an open mindset to the information provided. I ask participants in the implemental mindset to list the five steps to get a professional summer internship. These steps guide the participant's focus toward a plan of action, promoting quick and accurate accomplishment. Emphasizing feasibility-related information, the process encourages a closed-minded outlook that ensures efficiency.

After establishing the framework for each participant into each mindset, the study provides background information. The participant assumes the role of an employee of a party planning company. The company is planning an upcoming graduation party, and the participant is tasked with editing a playlist their co-worker created for this party. The co-worker considered the client's specific preferences as well as the company's policies and best practices. Participants are responsible for checking the playlist for errors, as they will be the last to look at it before it goes live.

The survey emphasizes the task objectives in bold writing. The participants need to ensure that the final playlist has 20 songs, each song has received a 4-star or 5-star rating, and each song must match the party atmosphere regarding mood, energy, and suitability. The star rating is the rating the client has given the songs from the company's library of popular party songs. However, the playlist creator (i.e., the hypothetical co-worker) and the playlist reviewer (i.e., the participant) must still use their professional judgment regarding whether the song should be included in the playlist.

After reading all task information, I manipulate the presence or absence of a consequence reminder. Participants in the consequence reminder present condition are prompted to remember the stories their co-workers and supervisors told regarding playlist mistakes that turned otherwise

awesome parties into epic failures. They then read about a story where this exact circumstance happened. Specifically, two years ago, a client had just graduated with a bachelor's degree in health sciences. She wanted a happy, calm playlist for a graduation party that was present but not thought about. Their co-worker was distracted when reviewing the playlist and missed some glaring mistakes in the song flow. A heavy metal rock song came on about every five songs and completely ruined the vibe the party was supposed to give off. The guests became aggravated and thought the music was obnoxious because the songs were ruining their ability to have a conversation and always cleared the dance floor. The story ends with deeming the party a complete disaster, even though every other aspect of the party was perfect. Participants in the consequence reminder absent condition do not view this information and instead proceed directly to the next part of the experiment.

Following this, participants begin the task of editing the playlist. The original playlist has several seeded errors, as previously mentioned (i.e., three inappropriate songs need to be replaced and the playlist needs an additional 2 songs to meet the length requirement). To facilitate editing, the survey informs participants that the initial playlist consists of only 18 songs because the company's software malfunctioned. Once the participants remove the songs they felt didn't match the requirements; the survey then brings them to the backup playlist to choose their replacement songs. This back-up list consists of 12 songs, 7 of which are valid replacements for this party.

Once the participants finished editing the playlist, they complete several demographic questions that allowed us to understand the tested population better. The questions ask the participants their age, level of education, expected major, work experience, and gender. The

demographics can offer context, allowing insights into how these factors might influence their opinions, experiences, and behaviors. It can ensure unbiased representation of the broader population. You can also use the data to analyze and see if it reveals any information regarding trends or patterns across different groups.

The survey is offered to students in the Principles of Financial Accounting course at the University of Central Florida. The class has 1,246 potential participants and is offered as extra credit for those who complete it. The software program utilized is *QualtricsXM*, which is used to give the survey and download the results at the conclusion of the study. The participants are given one week to complete, and it is not meant to take longer than 15 minutes to finish.

DATA ANALYSIS AND RESULTS

The survey, where the primary task involved editing a music playlist, was completed by 363 participants in the Principles of Financial Accounting course at a large national public research university. I randomly assigned participants to one of the four experimental conditions. I performed a series of procedures to analyze the integrity of the data. Based on this analysis, I removed 123 participants who spent less than 5 minutes on the experimental task. I also removed 24 participants who spent more than 83 minutes on the task and 28 participants who were not in one of the core business majors. This results in a final sample of 188 participants.

Descriptive Statistics

The correct number of songs once the task was completed is 20 songs. Table 1, Panel A and Figure 1 present the descriptive statistics surrounding the data for total songs, which includes the least squares mean and standard errors across different conditions. The mean number of songs accurately chosen across all participants was 20.85. The mean in the consequence reminder present and consequence reminder absent conditions are 20.29 and 21.35, respectively. The mean in the deliberative mindset and implemental mindset conditions are 21.35 and 20.29, respectively. Descriptive statistics for the number of songs correctly removed from the original playlist and the number of songs correctly retained in the original playlist follow similar patterns and are presented in Figure 2 and Figure 3, respectively as well as Table 2, Panel A and Table 3 Panel B, respectively. Descriptive results for the number of songs correctly retained in the original playlist (Figure 3 and Table 3, Panel A) are similar to the total number of songs. I find no significant variation in the numbers of correctly removed songs. I also find no significant

variation in the number of valid replacements made for deleted songs across conditions; however, completeness, I report descriptive statistics for this variable in Figure 4 and Table 4, Panel A.

Hypothesis Tests

I tested my predictions using a 2x2 ANOVA with the total number of songs on the final playlist as the dependent variable and my mindset variable and consequence reminder variable as independent variables. Consistent with H1, results reveal a significant main effect of mindsets on the total number of songs ($F = 5.62$, $p = 0.01$, one-tailed). However, I do not find a main effect of the consequence reminder or a significant interaction in this model ($F = 2.11$, $p = 0.15$; $F = 0.00$, $p = 0.48$, respectively); thus, results do not support H2. That is, consequence reminders do not seem to influence task performance, regardless of mindset.

I also ran separate ANOVAs (with the same independent variables) for each of the following dependent variables: the number of songs correctly removed from the original playlist, the number of songs correctly retained in the original playlist, and the number of valid replacements made for deleted songs. These are represented in Panel B of Table 2, Table 3, and Table 4, respectively. Results from these ANOVA models are similar to the results from the primary ANOVA model with total songs as the dependent variable and yield nearly identical differences. For example, I found a significant main effect of mindsets in the number of songs correctly retained in the original playlist, Table 3, Panel B ($F = 4.19$, $p = 0.02$). However, the consequence reminder (p-values range from 0.407 – 0.801) and interaction (p-values range from 0.30 – 0.42)

are insignificant in all models. Thus, while the results from my experiment provide relatively robust support for H1, these results consistently fail to support H2.

CONCLUSION

This research provides valuable insights into the role of mindsets and consequence reminders in task performance, particularly in the context of auditing. The primary evidence of this study is the impact of mindsets, which compliments previous literature that a deliberative mindset proves more effective than an implemental mindset in complex tasks. This can have practical implications for firms. It suggests that instead of focusing on speed and efficiency on complex tasks such as risk assessment, it will be more beneficial to encourage a deliberative mindset among auditors. This could enhance their performance, especially in jobs requiring critical analysis and decision-making. However, the study found that consequence reminders did not significantly influence task performance and were inconclusive. This could imply that firms need to ensure that awareness of a consequence and significant big-picture issues should still be well known. However, the focus should still be on maintaining the right mindset for the task at hand.

There are a few limitations to this study. The participants are students in an introductory course for accounting and not auditors in the field. This means they are not facing the pressures experienced in actual auditing scenarios. This limitation opens avenues for future research. It can also foster questions surrounding the consequence reminder and the inconclusive results. If the study was done on actual auditors, would the outcome have been different? It may have been inconclusive with students because they did not feel the pressures that an auditor faces when it comes to audit failure. Another limitation was that the participants were given extra credit to finish the assignment. They could have used the assignment as an easy way to improve their

grade and not taken it seriously. This is because it holds no value to them to complete accurately, knowing they will be given the extra credit anyway.

In conclusion, this research reaffirms the role that mindsets play in complex task performance. While the consequence reminder shows no evidence to have affected task performance, it could be because of the limitations of this study. Further research could be done on auditors instead of students to see if the consequence will alter task performance for a participant in the study. The findings of this study contribute to academic discussions but also have implications for auditing practices, potentially guiding firms in their training and development strategies to increase auditor performance and decrease audit failures.

APPENDIX: SURVEY RESULTS

Table 1 - Total Songs

Panel A: Descriptive statistics: Least squares mean (delta-method standard error) [n] Cell

	Consequence Reminder	No Consequence Reminder	Overall
Deliberative	21.71	21.03	21.35
	(0.44)	(0.40)	(0.29)
	[48]	[58]	[106]
	A	C	
Implemental	20.63	20.00	20.29
	(0.48)	(0.47)	(0.34)
	[40]	[42]	[82]
	B	D	
Overall	20.29	21.35	20.85
	(0.34)	(0.29)	(0.31)
	[88]	[100]	[188]

Panel B: Conventional ANOVA

Source	Sum of Squares	*df*	*F*	*p*[a]
Mindsets	51.62	1	5.62	0.01
Consequences	19.42	1	2.11	0.15
Mindsets x Consequences	0.03	1	0.03	0.48
Error	1691.22	184		

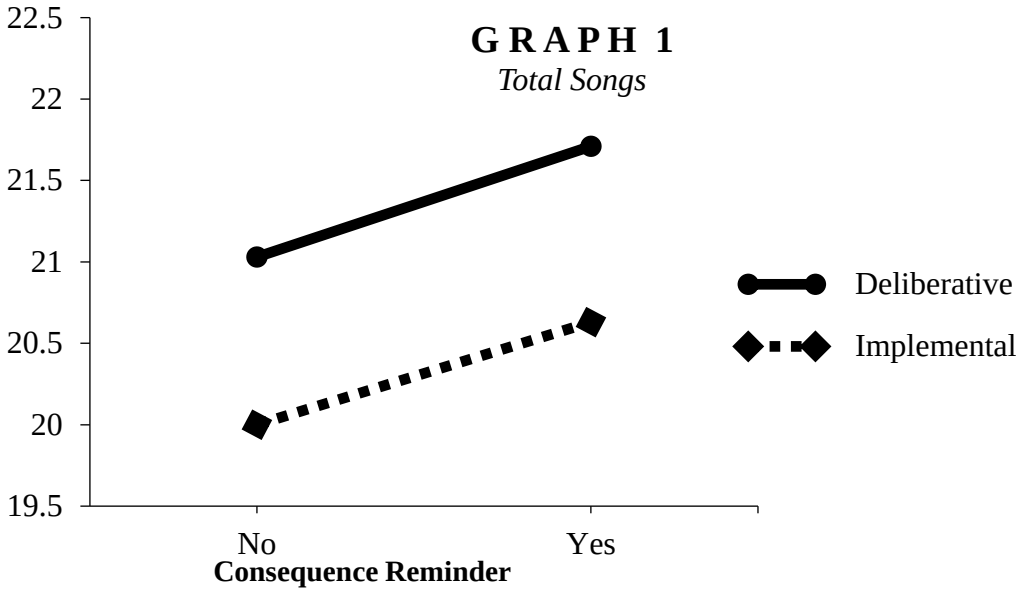

Figure 1 - Independent Variable Interaction with Total Songs

Table 2 - Correct Songs Removed

Panel A: Descriptive statistics: Least squares mean (delta-method standard error) [n] Cell

	Consequence Reminder	No Consequence Reminder	Overall
Deliberative	1.81	1.98	1.91
	(0.15)	(0.14)	(0.10)
	[48]	[58]	[106]
	A	C	
Implemental	2.08	2.14	2.11
	(0.17)	(0.16)	(0.12)
	[40]	[42]	[82]
	B	D	
Overall	2.11	1.90	2.00
	(0.12)	(0.10)	(0.11)
	[88]	[100]	[188]

Panel B: Conventional ANOVA

Source	Sum of Squares	*df*	*F*	*p*[a]
Mindsets	2.06	1	1.83	0.18
Consequences	0.65	1	0.58	0.45
Mindsets x Consequences	0.12	1	0.11	0.34
Error	206.21	184		

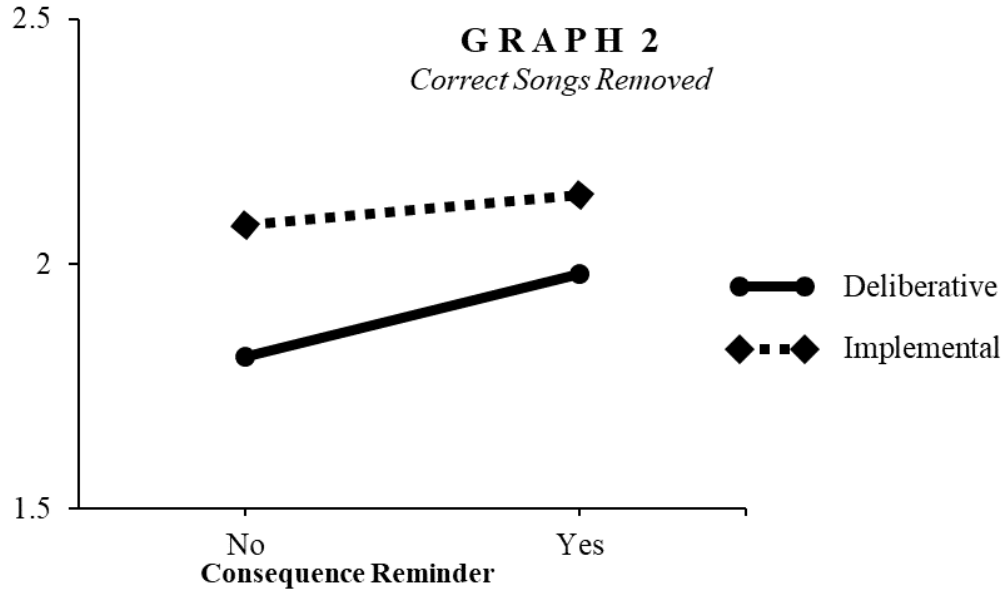

Figure 2 - Independent Variable Interaction for Correct Songs Removed

Table 3 - Correctly Retained Songs

Panel A: Descriptive statistics: Least squares mean (delta-method standard error) [n] Cell

	Consequence Reminder	No Consequence Reminder	Overall
Deliberative	13.85	13.58	13.71
	(0.41)	(0.37)	(0.28)
	[48]	[58]	[106]
	A	C	
Implemental	13.08	12.64	12.85
	(0.45)	(0.44)	(0.32)
	[40]	[42]	[82]
	B	D	
Overall	12.85	13.71	13.31
	(0.32)	(0.28)	(.20)
	[88]	[100]	[188]

Panel B: Conventional ANOVA

Source	Sum of Squares	*df*	*F*	*p*[a]
Mindsets	34.15	1	4.19	0.02
Consequences	5.64	1	0.69	0.41
Mindsets x Consequences	0.31	1	0.04	0.42
Error	1500.47	184		

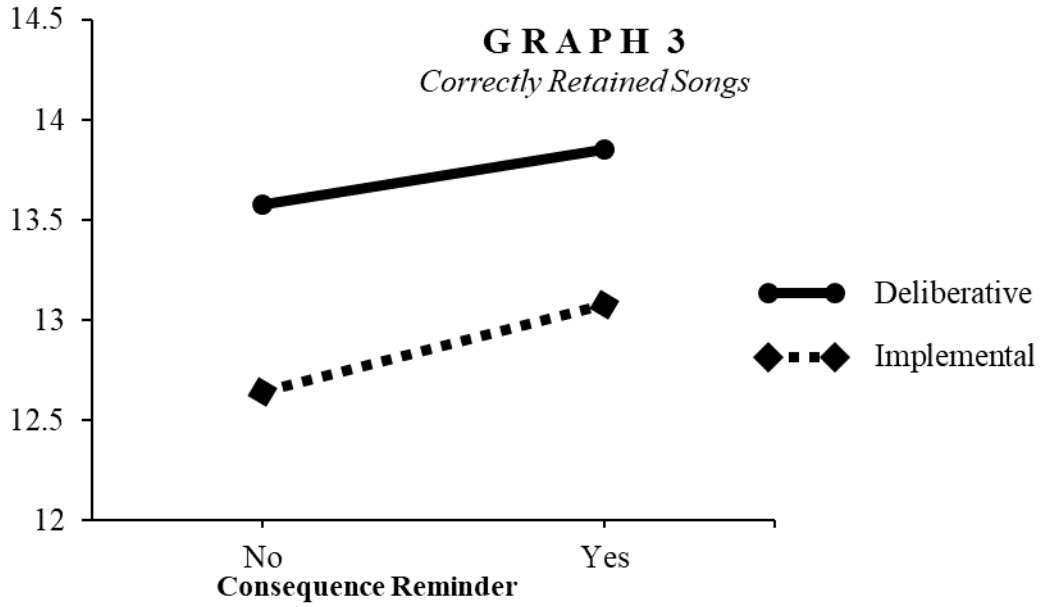

Figure 3 - Independent Variable Interaction for Correctly Retained Songs

Table 4 - Replaced with Valid Song

Panel A: Descriptive statistics: Least squares mean (delta-method standard error) [n] Cell

	Consequence Reminder	No Consequence Reminder	Overall
Deliberative	3.71	3.50	3.60
	(0.26)	(0.24)	(0.18)
	[48]	[58]	[106]
	A	C	
Implemental	3.45	3.52	3.49
	(0.29)	(0.28)	(0.20)
	[40]	[42]	[82]
	B	D	
Overall	3.49	3.60	3.55
	(0.32)	(0.28)	(0.19)
	[88]	[100]	[188]

Panel B: Conventional ANOVA

Source	Sum of Squares	*df*	*F*	*p*[a]
Mindsets	0.63	1	0.19	0.33
Consequences	0.21	1	0.06	0.80
Mindsets x Consequences	0.92	1	0.28	0.30
Error	598.79	184		

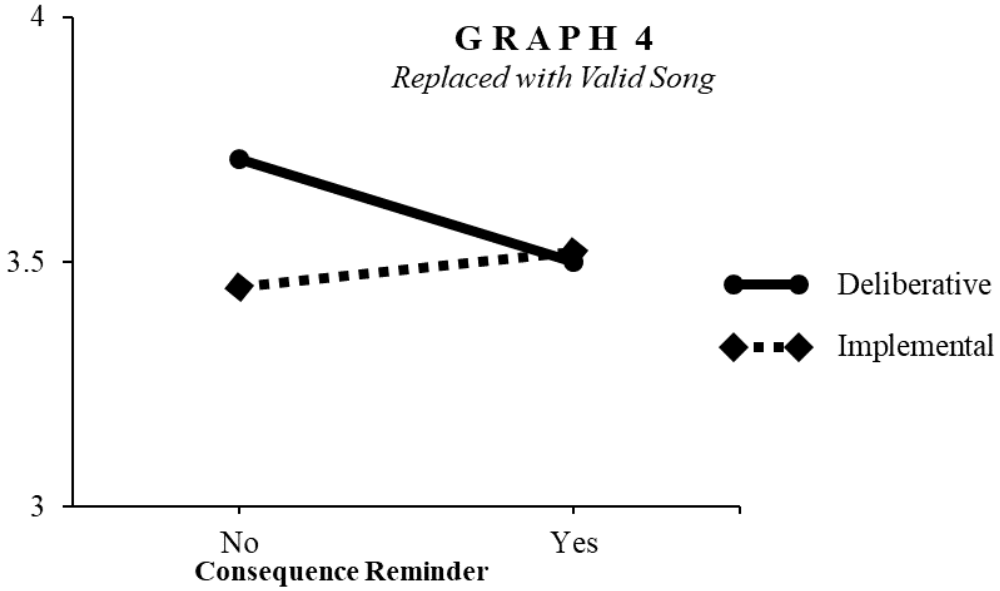

Figure 4 - Independent Variable Interaction for Replaced with Valid Song

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