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**The Role of Moral Reasoning and Order Effects in Ethical Decision Making Ability:  
The Case of Novice Vs Experienced Accounting Students**

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## **Abstract**

The purpose of this study is two-fold. Using the P-score from the defining issues test as a proxy for ethical decision making ability, this study firstly investigates whether work experience influences the perceptions about prescriptive and deliberative moral reasoning. Secondly, this study investigates the order effects of presentation of dilemmas on ethical decision making ability of novice and experienced accounting students. Moral reasoning can be categorized as prescriptive i.e. what should ideally be done and deliberative i.e. what is actually done. On account of lack of work experience, novice accounting students do not often face scenarios wherein there is a difference between their prescriptive and deliberative reasoning. This study hypothesizes that novice accounting students cannot differentiate between these two types of reasoning but would exhibit order effects while making ethical decisions. 140 graduate accounting students from universities in Denmark respond to an audit specific DIT instrument, measuring prescriptive and deliberative moral reasoning. The results indicate that, accounting students with work experience exhibit different perceptions to deliberative and prescriptive moral reasoning than novices while novice accounting students exhibit order effects. The implication of this study concerns ethics training to accounting students. This study calls for a more practical and hands on approach ethics training, one which teaches students not only to deal with dilemmas ideally but also trains them to handle dilemmas where in the ideal may not always translate into the actual.

**Keywords:** ethical decision making ability, moral reasoning, work experience, context of dilemmas

## Introduction

In the accounting profession, should ethics training start at the universities? Or should it start at the offices of accounting firms? There has been criticism in the past that ethical standards and behavior of accounting professionals has broken down (Gaa, 1995). The recent financial crisis in USA, along with the scandals at the beginning of this century has only helped in substantiating this criticism further. In recent times there seems to be a general consensus that ethics education must be incorporated in core accounting courses at the universities (Gaa and Thorne, 2004; Blanthorne et al, 2007). As a basis to this consensus, researchers have focused on different techniques of ethical training (Ferrell, 2005) and also on the ethical reasoning abilities of accounting students with emphasis on the factors influencing these reasoning abilities (Eynon, 1997). However, there has been a paucity of studies that have investigated the differences in ethical decision making abilities of novice accounting students and those with work experience. As working in an accounting firm exposes the individuals to varying pressures on a daily basis, it is expected that work experience would play a role in ethical decision making ability. The purpose of our study is to compare the ethical decision making ability of novices and accounting students with work experience, using two manipulated independent variables viz. mode of reasoning and order effects and an observed variable i.e. work experience.

The IFAC code of ethics for professional accountants prescribes professional accountants to follow certain fundamental principles at all times. However, it suggests that professional accountants face varying circumstances which might create threats to the compliance with the fundamental principles<sup>1</sup>. Therein, it becomes impossible to define every situation that creates threats to compliance with the fundamental principles and hence the, conceptual framework approach for ethical behavior. Owing to the varying and uncertain circumstances faced by professional accountants, emphasis is placed on ethics training to accounting students. The effectiveness of this training is vindicated when accounting students with higher ethical reasoning ability would act

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<sup>1</sup> The IFAC Code of Ethics for Professional Accountants (2010), in section 100.5, lists Integrity, Objectivity, Professional Competence and Due Care, Confidentiality and Professional Behavior as fundamental principles. In the section 100.6, the code of ethics introduces the conceptual framework approach, catering to the demands created by the differing nature of engagements and work assignments.

ethically in an audit setting. Thorne and Hartwick (2001) suggests that principled reasoners' would make more sophisticated and nuanced ethical and moral decisions but whether they do so will depend on their own convictions, as well as on their interpersonal and situational context. This shows that there is a gap between theory and practice. Accounting students' might make better decisions in a class-room, irrespective of that case representing a real life audit scenario. The pressures, opportunities and threats in a real-time audit setting might be enough to mitigate the prior ethical training in the class-rooms.

The audit process is carried out by a team of auditors, belonging to different hierarchical levels. Previous research suggests that discussions play an important role in the formulation of ethical decisions (Ashton, 1985; Solomon, 1987; Gibbins and Mason, 1988; Bamber et al, 1995). During the discussion of ethical dilemmas, auditors' reason as to what should ideally be done or what would actually be done. The former is called prescriptive reasoning while the later is deliberative reasoning (Rest, 1986). It is suggested that using prescriptive reasoning would result in higher moral reasoning scores than using deliberative reasoning would (Thorne and Hartwick, 2001). Since the audit team comprises of more than one member, it can be assumed that each auditor uses either type of reasoning. This suggests that there is difference between thinking ideally and acting ideally in reality. This difference can be acknowledged by audit professionals who have faced this disparity in moral reasoning. Hence it is expected that accounting students with no work experience would not know the difference between prescriptive and deliberative reasoning.

Ethics trainers need to take cognizance of such subtle differences in ethical perceptions. It is not only this difference in perception of mode of reasoning that needs to be acknowledged but also the lack of exposure in frequently resolving ethical dilemmas of different contexts. Literature suggests that accounting students exhibited higher deliberative moral reasoning scores for an audit related context than a corporate accounting context (Fleming et al, 2009). Although this result suggests that context is an important element in ethical decision making, auditors do not just face a single contextual dilemma. Due to the dynamic nature of work engagements, auditors face a variety of dilemmas one after the other. Hence, it is important to train accounting

students to make ethical decisions in a dynamic audit environment. The belief-adjustment model (Hogart and Einhorn, 1992) gives credence to this proposition. This model specifies that the order in which an individual processes information has an effect on their final beliefs (Lasalle, 1997).

The belief-adjustment model uses an anchoring and adjustment process, which implies a recency effect if the information received earlier has greater influence and a primacy effect for the opposite. In order to examine the potential importance of audit contexts, our study uses two different audit context's viz. a fraud context and a mundane context. Based on a three case defining issues test (Rest, 1979), the instrument used in our study has one fraud case and two mundane cases, wherein we change the order of presentation of the fraud case to examine belief revision in ethical decision making. Using these arguments as a foundation, the purpose of this paper is to examine the differences in ethical decision making ability between novice accounting students and students with work experience. This study examines these differences using two variables viz. mode of reasoning (prescriptive & deliberative reasoning) and the order of presentation of different contextual dilemmas (Fraud and Mundane scenarios). Firstly, this study determines whether novice accounting students can differentiate between prescriptive and deliberative reasoning. Secondly, it is shown that the belief-adjustment plays an important role in ethical decision making.

For testing the hypothesis, this study employs a 2X2(X2) between-subjects experiment. The first independent variable, mode of reasoning has two levels viz. prescriptive and deliberative, and the second independent variable order of dilemmas also has two levels viz. fraud-mundane-mundane (FMM) and mundane-mundane-fraud (MMF). The last independent variable, work experience was an observed variable while the manipulated variables were the mode of reasoning (prescriptive vs. deliberative) and order of dilemmas (FMM vs MMF) on three ethical dilemmas based on Rest's (1979) 3-case Defining Issues Test. One hundred and forty graduate accounting students from public universities in Denmark reviewed the three ethical dilemmas. The responses to these three cases represented an estimation of the level of prescriptive or deliberative moral reasoning ability of the students based on the context of the dilemmas. The results suggest that, novice accounting students exhibited similar P-scores for prescriptive and

deliberative reasoning while there was a significant difference in the P-scores for prescriptive and deliberative reasoning of accounting students with work experience. However, novice accounting students exhibited a considerable difference in the P-scores of cases with the fraud and mundane dilemmas while experienced accounting students exhibited similar P-scores for fraud and mundane dilemmas.

Prior literature in auditor ethical decision-making determined difference in ethical decision making ability between students and audit professionals, hierarchical levels in auditors, auditors and accounting students from different countries (Lampe and Finn, 1992; Ponemon, 1992; Tsui and Windsor, 2001; Dellaportas, 2004; Venezia, 2008). The results of our study contributes to the literature by providing empirical evidence that there exists a difference in ethical perceptions and ethical decision making ability between novice and experienced accounting students. This study turns the focus on specialized ethical training to accounting students. It supports the expectation that experienced accounting students distinguish between prescriptive and deliberative reasoning while novice accounting students view them as being the same. This study also determines that novice accounting students' response to a dilemma involving fraud and mundane dilemmas is considerably different than the response of an experienced student. This could mean that although experienced accounting students perceive differences between modes of reasoning; contextual presentation of dilemmas does not evoke similar perceptions. This indicates that experienced accounting students view dilemmas from a more technical perspective rather than an ethical perspective. The results of our study imply that ethics training needs to be more hands on and suitable to the different ethical perceptions of novice and experienced accounting students.

The remainder of this paper is structured into five sections. The first section provides a brief literature review of the role of work experience, mode of reasoning and belief-adjustment in ethical decision making ability. The second section is devoted to hypothesis development. The third section details the research design, the fourth section outlines the results of this study in detail and the final section concludes the paper with a discussion of results, their implications and the limitations of this study.

## Background and Hypothesis Development

### Cognitive Moral Development

Within auditing ethical decision making literature, cognitive moral development has generally been used to study auditor's ethical judgment. This theory can be attributed to the works of Piaget (1932) who aimed to explain cognition by examining why a subject values certain things from the person's own point of view (Rest, 1979). Later on Kohlberg (1969) developed this theory further by focusing on the individual's conception of ethical behavior and how their perceptions dictate their decision making ability (Ponemon, 1990). Kohlberg (1969) was of the view that morality could not be defined merely by conformity with group norms and that morality of an individual could not be assessed without knowing that person's point of view and intentions. Morality was considered to be philosophical rather than behavioral (Rest, 1979). Using children aged 10 to 16 as subjects; Kohlberg (1969) characterized six progressive stages of moral judgment. The moral judgment of an individual is said to be indicative of the stage they belong to. The stages are progressive in nature and an individual proceeds to the next stage on the basis of their internalized belief system (Kohlberg, 1969). However, the highest stage is also characterized as being more often reversible (Rest, 1979). The six stages and their concepts are described as below:

Stage <sup>a</sup>	Concept
Stage 1	Punishment and obedience orientation
Stage 2	Naive instrumental hedonism
Stage 3	Good-boy or good-girl morality of maintaining good relations, approval of others
Stage 4	Authority of maintaining morality
Stage 5	Morality of contract, of individual rights, and of democratically accepted law
Stage 6	Morality of individual principles of conscience

<sup>a</sup> Adapted from Development in Judging Moral Issues, by James R. Rest, 1979, Chapter 1, p9.

Moral judgment involves an individual's thought process, which is difficult to be observed directly. Kohlberg (1969) had used moral judgment interviews to observe the moral judgment of children. Influenced by Kohlberg's work, Rest (1986) created the six case based defining issues test (DIT); the aim of this test was to quantify the assessment of moral judgment. This test presents the subjects with either three or six cases based on an ethical dilemma. The respondents are then asked to give their opinion about the dilemma, using a likert scale they are then asked to rate twelve statements which might have helped them in formulating their decision. These twelve statements are representation of the six stages of moral development. The respondents are finally asked to rank the top four of these twelve statements. Based on the responses to ranking, a P-score is calculated. The P-score is representative of the level of moral development of the respondent. Kohlberg (1969) categorized the first two stages as pre-conventional level, stages 3 and 4 as conventional level and stages 5 and 6 to be post-conventional level. The P-scores can range from 0 to 95 and if a respondent scores less than 27, their moral judgment is said to be at the pre-conventional level. If the respondents score between 27 and 42, then their moral judgment is said to be at the conventional level and any score above 42 would put them in the post-conventional level. Massey and Thorne (2006) equate stage 4 ethical reasoning with rule-based ethical reasoning. As the accountant's code of ethics is partly rule-based, it is desirable that the respondent's ethical reasoning is at least at stage 4 i.e. at the conventional level.

### **Work Experience**

In accounting ethical decision making literature, the effect of work experience on moral reasoning abilities has been studied ever since the first article based on cognitive moral development appeared (i.e., Armstrong 1987) and it still continues to be one of the favored demographic variables. However, literature has been divided over the effect of work experience on moral reasoning abilities. Armstrong (1987) compared CPA to college students, graduate students and adults in general. She found that CPA's had lesser P- scores than students (38.4 and 53 respectively). Contrary to this finding Ponemom and Glazer (1990), in their study comparing ethical development of students and alumni in accounting practice, reported that alumni in accounting practice had



higher P-scores than seniors or freshmen (48.11, 47.44 and 26.92 respectively). Lampe (1994) conducted a longitudinal study that examined accounting students' level of moral reasoning. This first of a kind study examined both senior and junior level accounting students for four years; the results showed that there was no difference in the students' measures of moral development over there four years.

A clear consensus about the effect of work experience on moral reasoning abilities is yet to be arrived at. Some further studies suggest students to possess higher DIT scores than audit professionals (Armstrong, 1987; Ponemon and Gabhart, 1993; Shaub, 1994; Thorne et al, 2003; Mintchick and Farmer; 2008 and Fleming et al, 2009). This result could be explained from the fact that, accounting students are not exposed to pressures and threats hence their core beliefs and values are not as often tested as with audit professionals. In an auditing context, work experience seemed to have a negative effect on the ethical judgment of auditors. The P-scores were found to be high up to the staff levels and then gradually decreased for the managers and partners (Ponemon and Gabhart, 1993 and Shaub, 1994). Loe et al (2000) suggest that on account of this mixed nature of findings, there is no clear understanding of the role of experience in ethical decision making. This puts the onus on the training in ethics at every hierarchical level and also at the foundational levels. As accountants face varying circumstances because of the differing nature of engagements and work assignments, their ethical decision making ability is put to test continuously. The answer to the ethical problems being faced by the audit profession, seem to lie in perpetual and pervasive training in ethics. This line of argument has been substantiated; studies have found that training in ethics has had a positive effect over the ethical judgment ability of auditors (Sweeney, 1995; Eynon et al, 1997). On account of the lack of consensus in the literature over the role of experience in decision making, we state the hypothesis for main effects in null form for mode of reasoning and contextual presentation order changes and audit work experience on the ethical decision making ability of accounting students.

H0: Accounting student's moral reasoning ability will be independent of the mode of reasoning, context of dilemmas and their work experience.

This paper looks to segregate the aspects of moral reasoning. It was earlier suggested that there are two modes of moral reasoning viz. prescriptive and deliberative reasoning. Prescriptive reasoning deals with what should be ideally done to resolve an ethical dilemma while deliberative reasoning deals with what would actually be done to resolve the ethical dilemma (Rest, 1986). In a study on accounting students, Thorne (2001) found that accounting students prescriptive reasoning scores are significantly higher than their deliberative reasoning scores (35.8 for prescriptive and 30.9 for deliberative reasoning). These findings outline the importance of prescriptive reasoning to ethical decision making ability of accounting students. Corroborating this importance, Thorne and Hartwick (2001) find similar result with a subject group of auditors. However these results cannot be generalized to all accounting students. As suggested earlier there might be differences in the perceptions of mode of moral reasoning among novice accounting students and accounting students with work experience. We state this interaction effect in hypothesis 1:

H1a: The moral reasoning ability for prescriptive reasoning would be higher than deliberative reasoning scores for accounting students with no work experience.

H1b: The moral reasoning ability for prescriptive reasoning would be higher than deliberative reasoning scores for accounting students with work experience.

### **Order Effects**

The belief-adjustment model (Hogarth and Einhorn, 1992) is considered to be the most predominant model that explains the effects of the order of information cues (Bonner, 2007). This model specifies that the order in which an individual processes information has an effect on their final beliefs (Lasalle, 1997). Using an anchoring and adjustment technique, this model suggests that an individual processes information in a sequential manner which leads to order effects (Arnold, 1997). The belief-adjustment model identifies four major stages in decision-making i.e an initial starting point, the presentation of cues or evidence, processing of this evidence and the subsequent belief adjustment. Emphasis is placed on the strength of the cues or evidence encountered. If the individual receives a negative cue i.e a cue disconfirming their initial belief, the stronger initial belief gets reduced more than the less strong initial beliefs. Conversely, if

the individual receives a positive cue i.e. a cue confirming their initial belief, the stronger initial beliefs get increased lesser than weaker initial beliefs. Hogarth and Einhorn (1992) suggest that whenever an individual makes decisions based on the strongest cue received, it is called a primacy effect. Recency effect occurs when the individual makes decision based on the most recent evidence received. When an individual receives both positive and negative cues, they would exhibit recency effect when processing the information on a step-by-step basis and primacy effect otherwise (Bonner, 2007).

Within accounting a number of studies have examined order effects. It is suggested that accountants are trained to process information in a step-by-step way rather than at the end of sequence (Ashton and Ashton, 1990). This study also shows that presentation order effects exist when auditors are asked to respond to an auditing task and then to a non-auditing task. Like with work experience, there seems to be no consensus over the influence of order effects on auditor's decision making. Some studies have found that auditors exhibit recency effect when presented with mixed cues (Tubbs et al, 1990; Reckers and Schultz, 1993 and Krull et al, 1993). However some studies report that auditor's exhibit primacy effects when presented with mixed cues only when the inherent risk is low (Anderson and Malletta, 1999). Studies on accounting students report that students exhibit recency effects with mixed cues when information is framed inconsistently with its sign (Rutledge, 1995). It is also reported that students are prone to recency effect when the most recent information is given more weight than information presented earlier (LaSalle, 1997). Based on prior research we expect that order effects may influence the moral reasoning ability when subjects are introduced to varying intensity of ethical dilemmas. While the main effect for order was stated in the null form in H0 our primary aim is to examine the possible interactions between audit work experience and such an order effect. In our study we expect novice accounting students to exhibit recency effect, as we postulate that novice accounting students make ethical decision based on the stronger cues present in an the ethical dilemma, hence we hypothesize:

H2a: Novice accounting students would exhibit higher moral reasoning ability when a fraud dilemma is presented first followed by the two mundane dilemmas than when the mundane dilemmas are presented first and later by the fraud dilemma.

H2b: Accounting students with work experience would exhibit similar moral reasoning ability when a fraud dilemma is presented first, followed by the two mundane dilemmas than when the mundane dilemmas are presented first followed by the fraud dilemma.

## Method

### Participants

One hundred and eighty graduate accounting students from 3 universities in Denmark participated in this study. This resulted in 140 complete and valid responses. Responses of 40 participants were excluded from the analysis because they were either incomplete or failed the consistency and internal validity tests. The participants consisted of 85 accounting students with audit work experience and 55 students who were either novices or had less than one year of work experience in an audit firm. The overall average years of work experience for accounting students with work experience was 5.1 years. As can be seen from the table below, the participants consisted of 78 males and 62 females; the mean age of the participants was 26.9.

**Table 1: Demographic Data**

	Prescriptive- MMF	Prescriptive- FMM	Deliberative- MMF	Deliberative- FMM	Total
Total Sample Size	34	35	33	38	140
Experienced: N	20	23	19	23	85
Percentage	58.8	65.7	57.7	60.5	60.7
Average Audit Experience	4.4	5.9	4.9	5.2	5.1
Novice: N	14	12	14	15	55
Percentage	41.2	34.3	42.3	39.5	39.3
Overall Average Age	27.5	27.4	26.8	26.5	27

### Instrument and Experiment Design

This study adopts a 2X2(X2) between subjects experimental design that varied the mode of reasoning and contextual presentation in each instrument; firstly, by making the accounting students to think either prescriptively or deliberatively and secondly, by varying the presentation order of the two different contexts of cases i.e MMF or FMM. The instrument adopts the framework of a 3 case DIT (Rest, 1986) and is partly based on

the Thorne's (2000) accounting ethical dilemma instrument (AEDI). The three cases have been drawn up keeping in view the two contexts of audit dilemmas. The manipulation for context of dilemmas is accomplished by distinguishing between a fraud and a mundane scenario. Furthermore, we present two mundane scenarios and one fraud scenarios. To examine the order effects, for one group of students the fraud case is presented first followed by the two mundane cases while another group of participants get the two mundane cases first followed by the fraud case.

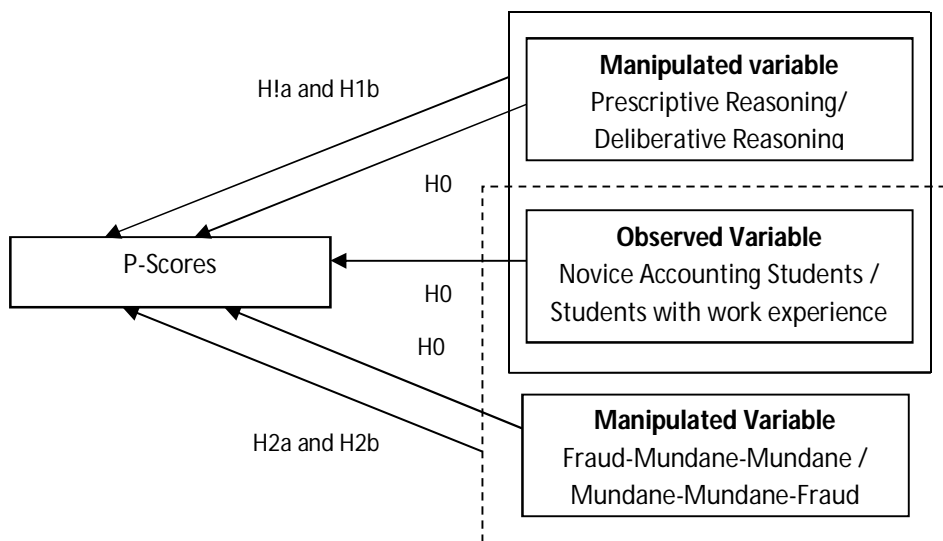
The two mundane dilemmas deal with issues related to ignoring an error and modifying negative comments about internal control. The fraud dilemma deals with a situation where in a fraud is detected within the company that is being audited and the engagement partner has to decide what to do, as his decision would have a bearing on the company's going concern. The manipulation for mode of reasoning is accomplished through the wording of the query for the participants about their assessment of the dilemma. The prescriptive mode of reasoning is operationalized in the instrument by asking the participants to decide, what should be done ideally? The deliberative mode of reasoning is operationalized by asking what would be actually done, if this was to occur in their audit firm. All the cases have been constructed keeping in view the interactions in between hierarchies of audit teams. Appendix 1 provides an example of the deliberative version of fraud case of the instrument.

Figure 1 depicts the variables used in this experiment at the operational level. The central idea of this experiment is to examine the effect of various factors on ethical decision making ability of accounting students. The P-scores from the defining issues test have been used as a proxy for ethical judgment within judgment and decision making literature (Thorne and Hartwick, 2001). In our study, the dependent variable at the conceptual level is ethical decision making ability and we use the P-scores from DIT as a proxy at the operational level. The independent variables examined in this study are mode of reasoning, order effects and an observed variable i.e. audit work experience. At the conceptual level, mode of reasoning is represented by prescriptive and deliberative reasoning. At the operational level, the instrument is segregated into two versions. One version asks the participants to respond ideally i.e prescriptively and the other asks the participants to decide what would actually be done i.e. deliberative reasoning. At the

conceptual level, order effects are studied by cases which vary in content. In the operational level, we have drawn up one case that deals with a fraud scenario and two cases with rather mundane scenarios. To examine order effects, the fraud case is either presented first then followed by the two mundane cases (FMM) or the two mundane cases are presented first then followed by the fraud case (MMF). The instrument is drawn as a combination of both mode of reasoning and contextual presentation order effect, this result in four sets of the instrument viz. prescriptive-FMM, prescriptive-MMF, deliberative-FMM and deliberative-MMF. All these four versions of the instrument have been randomly distributed among the participants. The work experience variable was an observed variable and was part of the demographic information. However based on prior observation, it was known that the selected population of accounting students had a reasonable distribution of students with work experience.

**Dependent Variable**

**Independent Variables**



**Figure 1:** Overview of the operation level of the experiment

A pilot study had been conducted, using tax auditors and auditors from a big four accounting firm. The feed-back from this pilot study helped in re-organizing and strengthening the instrument. The instrument consists of 4 parts; part 1 provides the general instructions and an example on how to respond to the individual cases. Part 2

introduces the audit firm, the background and the characters. Part 3 consists of the three cases, here the participants are first presented a case and asked to make a decision, they are then given 12 statements that they might have thought while making their decisions. The participants are asked to rate these twelve statements and finally they are asked to rank the top four of these twelve statements. At the end of the experiment, the participants are asked to fill out certain demographic data and answer certain debriefing questions. The instrument was distributed randomly to all participants. Appendix 2 provides an example of the prescriptive version of the instrument.

The twelve statements in part 3 of the instrument represent the six stages of moral development, included in them are some statements that have no meaning. These are included in the instrument as they act as internal checks on the subject's reliability. While calculation the final p-scores, it is observed whether the respondent has rated these meaningless statements as being important. Any instrument which carries a score of over 4 is excluded from the final analysis. Initially 180 instruments were distributed out of which 40 were either returned incomplete or had issues with their internal checks on reliability. The internal consistency reliability score was calculated for the instrument to make sure that the instrument captured what it had intended to. The cronbach's alpha was 0.71 for the 3 case-instrument. Thorne (2000) reported an alpha value of 0.53 for a four case instrument. While Fleming et al (2009) report an alpha of 0.55 and 0.53 for two different contexts. Rest (1979) suggested an alpha in the low 0.70 for a 3 case instrument.

### **Hypothesis Testing**

We present the mean P-scores observed for the four different versions of the instrument in table 2. As can be seen in table 2, the mean P-scores for the novice accounting students (36.12) are almost identical to the P-score of the accounting students with work experience (36.58). This suggests that work experience alone might not create a difference in ethical judgments between the two groups of respondents. However, it can also be seen from table 2 that there are differences in the way both these groups perceive and respond to the two manipulated variables. The null hypothesis stated that the P-scores will be independent of the mode of reasoning, contextual presentation and work experience. The ANOVA results displayed in Table 3 show a significant relationship

between the independent variables and the dependent variable ( $F = 2.91$ ;  $p = 0.037$ ;  $R^2=0.06$ ). Hence we find support for main effects on reasoning ability from mode of reasoning ( $t=-2.222$ ,  $p=0.028$ ) and order effects ( $t=1.988$ ,  $p=0.049$ ), but not from audit work experience. We also find that the coefficient for mode of reasoning is negative; this is reflected in the overall mean p-scores for prescriptive and deliberative reasoning. This finding supports the claim that moral reasoning scores, while reasoning prescriptively, will be higher as it entails reasoning ideally and excludes considering non-moral values. We also show that the overall mean P-score for the MMF presentation is lower scores than the mean scores for FMM presentation, which results in the positive coefficient for order effects. This gives support to the contention that presentation of stronger cues in the context of ethical dilemmas influence ethical decision-making better than presenting weaker cues. Although the coefficient for work experience is positive, the mean p-score for novice students is only marginally lower than the mean p-scores of students with work experience. Superficially, the moral reasoning ability of novice students and students with audit work experience appears to be similar. However, we expect differences in reasoning ability for mode of reasoning and order effects between novice accounting students and students with audit work experience.

**Table 2: Descriptive Statistics**

Variable	Novice(N=55)					Experienced(N=85)					Overall
	N	Mean	Std.Dev	Min.	Max.	N	Mean	Std.Dev	Min	Max	
Prescriptive	26	35.38	10.42	16.67	56.67	43	39.61	7.50	23.33	60.00	37.46
Deliberative	29	36.78	7.79	20.00	50.00	42	33.49	8.80	16.67	53.33	35.14
FMM	27	39.25	8.69	23.33	56.67	46	36.88	8.95	23.33	60.00	38.01
MMF	28	33.09	8.51	16.67	56.67	39	36.24	8.59	16.67	53.33	34.67
Overall	55	36.12	9.07	16.67	56.67	85	36.58	8.74	16.67	60.00	36.35

**Table 3: ANOVA<sup>b</sup> result for Main Effects**

Model	Sum of Squares	Df	Mean Square	F	p-value (two-tailed)
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Regression	655.21	3	218.52	2.91	0.037 <sup>a</sup>
Residual	10211.95	136	75.08		
Total	10867.50	139			

<sup>a</sup> Predictors: (Constant), Mode of Reasoning, Order effect and Work Experience

<sup>b</sup> Dependent Variable: P- Score

### Panel B: Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	36,746	3,299		11,139	,000	30,222	43,270
Mode of reasoning	-3,258	1,466	-,185	-2,222	,028	-6,158	-,358
Order Effect	2,919	1,468	,165	1,988	,049	,015	5,823
Work Experience	,212	1,502	,012	,141	,888	-2,758	3,183

a. Dependent Variable: P- Score

While we found no support for the main effect of audit work experience, we contemplate possible interaction effect on audit work experience from mode of reasoning and order effects. Hypothesis 1a states that the prescriptive scores would be higher than the deliberative scores for novice students. The mean P-scores presented in table 2 show that the prescriptive reasoning score for novices (35.38) is only slightly lower than their deliberative reasoning score (36.78). ANOVA testing does not show a statistically significant result for H1a ( $F = 0.32$ ;  $p = 0.573$ ). This result suggests that novice accounting students perception of prescriptive and deliberative reasoning is similar and that work experience is indeed a crucial factor in creating this perception. The hypothesis 1b suggested that there would be a difference in the prescriptive and deliberative scores for accounting students with work experience. As exhibited in table 2, we observe that the prescriptive reasoning scores are quite higher (39.61) than their deliberative reasoning score (33.49). The ANOVA testing finds a statistically significant relationship which lends support H1b ( $F = 11.72$ ;  $p = 0.001$ ). This result is consistent with the findings of Thorne and Hartwick (2001), who while examining directional effect of discussion on auditors' moral reasoning found that auditors had higher moral reasoning scores after prescriptive

discussions. This expected mixed result demonstrates that both these groups of participants respond to mode of reasoning in a different way. Although not statistically significant, H1a lends support to further research in the perception of mode of reasoning by novice accounting students. This result also helps in highlighting the limitation of studies (Fleming et al, 2009; Ge and Thomas, 2007) that uses accounting students to examine the effects of deliberative reasoning.

**Table 4: ANOVA<sup>b</sup> results for Mode of Reasoning as a Predictor**

Group	Hypothesis	Model	Sum of Squares	Df	Mean Square	F	p-value (two-tailed)
Novice	H1a	Regression	26.72	1	26.72	0.32	0.573 <sup>a</sup>
		Residual	4412.36	53	83.25		
		Total	4439.08	54			
Experienced	H1b	Regression	795.54	1	795.54	11.72	0.001 <sup>a</sup>
		Residual	5625.61	83	67.78		
		Total	6421.15	84			

<sup>a</sup> Predictors: (Constant), Mode of Reasoning

<sup>b</sup> Dependent Variable: P-Score

Based on anchoring and adjustment, hypothesis 2a states that novice accounting students would exhibit higher P – scores for the FMM case than the MMF case. The rationale behind this hypothesis was that novice accounting students would exhibit a primacy effect when first confronted with a dilemma that is high in ethical intensity and a recency effect when first confronted with an ethical dilemma that is low in ethical intensity. As displayed in table 2, we observe that the moral reasoning scores of novice accounting students responding to the FMM case is quite high (39.25) than that of the students responding to an MMF case (33.09). The ANOVA tests show a statistically significant result for order effects ( $F = 7.06$ ;  $p = 0.010$ ), this provides support to H2a. The moral reasoning scores of accounting students with work experience are similar when responding to a FMM instrument (36.88) than when they respond to an MMF instrument (36.24). This is in line with what has been postulated in H2b, but ANOVA testing reveals no significant results ( $F = 0.114$ ;  $p = 0.737$ ). These results give support to the contention that accounting students are prone to primacy effects when the ethical arguments are presented

sequentially (Lasalle, 1997), and also contributes to this literature by suggesting the existence of primacy effects when these ethical arguments are low in ethical intensity. These results when viewed in conjunction with the results from the effect of mode of reasoning show that, novice accounting students perceive prescriptive and deliberative mode of reasoning as being the same and use the intensity of the context being faced to resolve the ethical dilemma. Similarly, the results suggest that accounting students with work experience can differentiate between the modes of reasoning but fail to do so when facing varied contexts. This could stem from the notion that, professional auditors view dilemmas from a technical point of view rather than an ethical point of view.

**Table 5: ANOVA<sup>b</sup> results with Order Effects as a predictor**

Group	Hypothesis	Model	Sum of Squares	Df	Mean Square	F	p-value (two-tailed)
Novice	H2a	Regression	522.18	1	522.18	7.06	0.010 <sup>a</sup>
		Residual	3916.90	53	73.90		
		Total	4320.19	54			
Experienced	H2b	Regression	8.80	1	8.80	0.114	0.737 <sup>a</sup>
		Residual	6412.35	83	77.26		
		Total	6546.91	84			

<sup>a</sup>Predictors: (Constant), Order effects

<sup>b</sup>Dependent Variable: P- Score

These results however do not reveal much about the belief revision process of accounting students. We present the case wise breakup of the mean p-scores to check for anchoring and adjustment in table 6. Panel A presents the breakup of mean p-scores for the accounting students with work experience. It can be seen that the moral reasoning scores of the respondents changes progressively as they respond to the FMM instrument. While responding to the MMF instrument, the moral reasoning scores reduce from the first case through to the last case. ANOVA test was first performed with the p-scores of case A as dependent variable and contextual presentation as independent variable. The next block had the P-scores from case B as their dependent variable and the p-scores from case A along with contextual presentation served as independent variable. For the last block, p-scores from case B were added to previous two independent variables. This model is

summarized and the results are presented in panel B of table 6. The results are significant at the 5% for case A, while case B was significant at the 10% level. These results suggest that the experienced accounting student while responding to the FMM instrument exhibits a primacy effect but exhibits recency effects while responding to the MMF instrument. Novice accounting students exhibit similar recency effect while responding to the MMF instrument but no pattern emerges out of their moral reasoning scores from the FMM cases. However, the ANOVA tests show a highly significant result for case C.

**Table 6: Analysing Order Effects**

**Panel A: Case wise mean P-scores**

	Students with Work Experience (N=85)		Novice Students (N=55)	
Case	FMM	MMF	FMM	MMF
Case A	10.51	14.18	10.49	12.85
Case B	11.81	11.53	11.11	11.54
Case C	14.56	10.51	17.65	8.69

**Panel B: Model Showing the Set-up and Analysis of Order-Effects**

	Students with Work Experience						Novice Students					
Dependent Variable	Block I		Block II		Block III		Block IV		Block V		Block VI	
Case A <sup>a</sup>	X						X					
Case B <sup>b</sup>			X						X			
Case C <sup>c</sup>					X							X
Independent Variable												
Case A <sup>a</sup>			X		X				X			X
Case B <sup>b</sup>					X							X
Case C <sup>c</sup>												X
Order Effects <sup>d</sup>	X		X		X		X		X		X	
Interaction Effects	F	Sig	F	Sig	F	Sig	F	Sig	F	Sig	F	Sig
	6.26	0.014	1.95	0.085	2.08	0.105	1.92	0.172	1.227	0.314	13.07	0.00

<sup>a</sup> Case A could either be a Mundane case or a Fraud case

<sup>b</sup> Case B is a mundane case.

<sup>c</sup> Case C can either be a Fraud case or a Mundane case.

<sup>d</sup> Order effect reflect the presentation of dilemmas i.e MMF or FMM

**Discussion and Conclusion**

This study has examined whether work experience influences the perceptions about prescriptive and deliberative moral reasoning. Using two different contexts of varying ethical intensity in 3 DIT based cases (one fraud case and two mundane cases), this study has also examined belief adjustment while making ethical decisions in both novice and

experienced accounting students. This study has produced four key findings. Firstly, the results demonstrate that work experience along with mode of reasoning and contextual presentation order effects influence ethical decision making ability. While it is known that moral reasoning influences ethical decision making (Thorne and Hartwick, 2001; Hill et al, 1998; Ponemon and Gabhart, 1993) and order effects influence ethical decision making ability of accounting students (LaSalle, 1997), this study adds to the literature by segregating accounting students into novices and accounting students with work experience and showing that there are differences in the perception of ethical decision making between these two groups. Literature suggests that no study has looked to examine the choice of ethical action of early career accountants or new accounting graduates (McManus and Subramaniam, 2009). The results from this study have also shown that prescriptive reasoning is more important than deliberative reasoning. Apart from the paucity of studies examining moral reasoning in accounting ethical decision-making literature, certain studies only focus on the deliberative aspect of moral reasoning (Fleming et al, 2009; Ge and Thomas, 2008). The results from our study reiterate that focusing on only one aspect of moral reasoning would limit the understanding and acknowledgement of issues within ethical decision making.

The second key finding of our study has implications to ethical training of accounting students. This key finding suggests that novice accounting students cannot distinguish between prescriptive and deliberative reasoning and make their ethical decision based on the ethical intensity of the given ethical dilemma. Conversely, the experienced accounting students cannot distinguish between a fraud and a mundane context and make their decisions based on moral reasoning. Lampe (1994) while conducting a four-year longitudinal study of accounting students levels of moral reasoning, found no difference in their moral reasoning scores and suggested that accounting students might have been strongly oriented towards code-implied rules. This gives rise to the notion that experienced accounting students may view ethical scenarios from a technical perspective. Recent literature has made calls to integrate ethics education in accounting curricula (Blanthorne et al. 2007). In a study on accounting education conducted by PricewaterhouseCoopers (2003), it is suggested that ethics is not a consistent and integrated part of the education of most accounting students. Even though ethics is

inconsistently covered in accounting education, it is often code-bound and concerned with rule conformance rather than understand ethical issues (Kerr and Smith, 1995; Langenderfer and Rockness, 1989). The findings from our study strongly give strength to calls for shifting the focus of ethical training from code-bound and inadequate to a comprehensive, practical and hands on mode of ethical training.

The third key finding of this study demonstrates the order effects during ethical decision making by both novices and experienced accounting students. The results showed a recency effect for both novices and experienced students while responding to an MMF instrument, while primacy effect was found when experienced students responded to the FMM instrument. The implication of this result is to both literature and ethics training. The literature examining order effects in accounting has only been used in explaining judgment within accounting. Despite the 3 case defining issues test and the four case accounting ethical dilemma instrument (Thorne, 2000) being best suited to study order effects from an ethical perspective, to date there have been very few studies in accounting that have examined order effects. Our study fills this gap in the literature by examining order effects using the defining issues test. The second implication of this finding is to the nature of ethical training in accounting. The profession of accounting is characterized by varying and uncertain nature of engagements and work assignments. Accountants face different kinds of dilemmas on a daily basis, and this calls for an ethical training which takes into account the different needs of the accounting profession. The results of our study point that as order effects exist and bias the ethical judgment of both novice and experienced accounting students, emphasis should be placed on improving the ethical reasoning skills and ethical sensitivity of accounting students.

The findings presented in this study are subject to two caveats. The first caveat concerns the nature of sample. The accounting students were drawn from three universities in Denmark and consisted of students who also worked in accounting firms; however for the accounting students with work experience no information about their employers is available. Institutional factors could play a role in the development of ethical reasoning of accounting students working in big 4 firms and other smaller firms. The second caveat concerns the setting of the experiment. Culturally Denmark is ranked high on Hofstede's

cultural dimensions, this equates to a highly ethical society. Hence, the findings of our study may not be generalized to accounting students from other countries.

**Appendix 1: Fraud case from the FMM version combined with Deliberative mode of reasoning manipulation.**

**Good Intentions but Bad Execution**

During the course of the audit, the engagement team discovers that Pharmaco's accounting system which was developed by ABC had a few control weaknesses and that there were a few considerable cut-off errors which materially misstated Pharmaco's income significantly. After a few days into the audit, they identified irregularities which maybe pointing towards fraudulent activity. Further investigation identified a series of false customers, fake invoices and forged documents which had been used to obtain loans for acquisition of new technology. They have a strong suspicion that only the CEO could have the motive and the opportunity to create these irregularities. Lars, along with Annemette, calls for a meeting with the board of directors to apprise them of the situation. During the meeting the chairman informs that although the CEO had acted for the benefit of Pharmaco, he is considering replacing the CEO but only after the investment is secured from the venture capitalists. And considering the balance sheet size, the indicated problem is barely material. The chairman is concerned that these irregularities could bring about the downfall of the company. The chairman suggests that the audit firm was at a greater risk of sanctions were this suspicion of fraud to be made public. He then suggests that the engagement partner should rectify their internal control system. After the meeting, Lars meets with Annemette and Henrik and asks them to leave the audit working papers incomplete and that they should keep this discussion to themselves. Annemette and Henrik are shocked, and argue that they need to complete their parts of the audit working papers but Lars insists on doing as he said. Now, Annemette and Henrik become unsure and don't know what to do.

Imagine that this is happening in your audit firm, what do you think would actually be done? Would Annemette and Henrik accept the audit partner's decision?

They Would accept  They Would not accept

<b>Below are 12 statements that you may have thought about while making your decision, rate them in terms of importance in making your decision.</b>	<b>Great</b>	<b>Much</b>	<b>Some</b>	<b>Little</b>	<b>No</b>
1. The auditors may be justified in arguing that the fraud is not material by amount.					
2. Helping conceal a fraud may not be a responsible course of action.					
3. The audit firm's reputation needs to be protected, hence the fraud may not be made public.					
4. Henrik and Annemette have the opportunity to call the hotline for whistleblowing at their audit firm.					
5. Henrik and Annemette have taken into account that, the bankers who provided the loans have agreed to remain silent if the debt was repaid and the CEO removed.					
6. Annemette has recently qualified as a Certified Fraud Examiner.					
7. Henrik and Annemette's action needs to be consistent with what their peer's expect from them.					
8. Even though the fraud was committed to help the company, by subsequently removing the CEO, society is only being served in the best way.					
9. Agreeing with the engagement partner, on this issue, may not be consistent with the pronouncements of the accountants' code of ethics.					
10. Auditors have to choose between the welfare of the company or the true and fair view.					
11. Companies must not be allowed to get away with fraud.					

12. It is the auditors' duty to report a fraud, regardless of the circumstances.					
--	--	--	--	--	--

From the list of items above, select (X) the four most important:

	1	2	3	4	5	6	7	8	9	10	11	12
Most Important												
Second Most Important												
Third Most Important												
Fourth Most Important												

**Appendix 2: Mundane case from the FMM version combined with Prescriptive mode of reasoning manipulation.**

**Annemette and the Accounting System**

During the audit, Annemette informs Lars that while evaluating the quality control of the accounting system, which happens to be the Kompass package, she has uncovered several control weaknesses in the Kompass system. Her observation was based on few unexplained entries found especially during the end of the financial year 2009. The Kompass Accounting System was developed by ABC audit firm and was sold to the general public as well as the firm's clients, including Pharmaco Inc.

Lars, the engagement partner asks Annemette to modify her negative comments regarding the Kompass package, before mentioning it in the letter to Pharmaco's board of directors . Lars reasons that, Pharmaco has a very competent internal control system which was developed in co-operation with some of the best experts of their audit firm and that Pharmaco has a very complex nature of operations, so the unexplained entries might just be orders received at the very last moment.

Annemette is concerned that ignoring control issues would be acting against auditing standards and this could affect the final outcome of the audit. But then thinks that, as her firm had helped design the internal controls, their reputation is anyway at stake.

Imagine that Annemette is your colleague, as she is unsure of what to do, she has asked you for your advice. What do you think should ideally be done?

She Should accept  She Should not accept

<b>Below are 12 statements that you may have thought about while making your decision, rate them in terms of importance in making your decision.</b>	Great	Much	Some	Little	No
1. The weakness in the compass system may be easily corrected by compensating controls.					
2. A good employee accepts their superior's decision.					
3. Annemette's job maybe threatened by her refusal to modify the letter.					
4. A fair opinion on the client's financial position may favor auditors professional reputation.					



5. The best professional course of action for Annemette's firm needs to be considered.					
6. Annemette may have the professional duty to ensure the management letter is accurate.					
7. The potential value of an independent audit, may be significant compared to the society's current views of an enterprise's net worth.					
8. The best interests of the society need to be considered.					
9. The clients may not give as much importance to internal control and may only want a clean audit opinion.					
10. Amending the management letter may not be consistent with what Annemette thinks is right.					
11. Annemette's action needs to be consistent with what her peer's expect from her.					
12. What factors are relevant in determining Annemette's professional responsibility?					

From the list of items above, select (X) the four most important:

	1	2	3	4	5	6	7	8	9	10	11	12
Most Important												
Second Most Important												
Third Most Important												
Fourth Most Important												

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