

**A Test of Selection-Socialization Theory in
Moral Reasoning of CPAs in Industry Practice**

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ABSTRACT

This paper investigates the selection-socialization theory and the related Inverted-U phenomenon in the moral reasoning of Certified Public Accountants (CPAs) in industry practice. The literature so far has been limited to CPAs in public practice and has reported mixed results. Using a large sample of CPAs, we find insignificant differences in moral reasoning (as measured by the P-score of the Defining Issues Test) between various professional ranks in public and industry practice. This result suggests an absence of selection-socialization or the Inverted-U phenomenon in promotions to higher ranks in public and industry practice. However, we find evidence that the P-score of entry level accountants is significantly higher than those of the junior and higher professional ranks, suggesting that selection-socialization may take place at the entry level, when many accountants with higher moral reasoning turnover in early years of practice. Other important results indicate that there is no significant effect for gender or ethical training on the P-score. However, we find that the 60 percent of the CPAs that proclaimed themselves as politically conservative scored significantly lower in their P-score than moderate (35 percent) and liberal (5 percent) CPAs. This finding may explain the low P-scores of accountants in comparison to other professionals such as lawyers.

KEY WORDS: moral development, DIT, selection-socialization, inverted-U, political orientation

DATA AVAILABILITY: please contact authors

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INTRODUCTION

The literature on the relationship between selection-socialization theory (SST) and the related Inverted-U phenomenon (IUP) with moral reasoning of Certified Public Accountants (CPAs) has been limited to CPAs in public practice and has rendered mixed results (cf., Ponemon 1988, 1992b, Scofield, Phillips Jr., and Bailey 2004). The primary objective of this paper is to extend this literature to CPAs in industry practice.¹ However, since prior studies of CPAs in public practice have reported mixed results,² we also use our extensive sample to provide additional data for CPAs in public practice.

Selection-socialization occurs when individuals with certain attributes are recruited and assimilated in a profession (Blank 1984). Management literature indicates that individuals with attributes similar to superiors in organizations, who exert control over the promotion process (e.g., partners in accounting firms), often get promoted at the expense of those not so similar (cf., Fisher, Merron and Torbert 1987, Colarelli, Dean, and Konstans 1987).

In their large-scale sample of CPAs in public practice, Scofield et al. (2004) did not find evidence in support of SST in moral reasoning. However, the authors speculated that selection-socialization may occur at the entry to public practice, where entry level professionals with higher moral reasoning may leave the firms in larger numbers than others with lower moral reasoning scores, suggesting the presence of a selection process. The second objective of this paper is to test this speculation by using a sample of

¹ We define CPAs in industry practice as those in government and private practice.

² For example, while Ponemon, 1992b finds evidence of SST on moral reasoning of CPAs in public practice, Scofield et al. (2004) does not.

graduating accounting students as a proxy for entrants to the accounting profession (both public and industry practice).

Related to SST is the possibility of an “Inverted-U” phenomenon (IUP) in moral reasoning of CPAs in practice. IUP suggests that the average level of moral reasoning of mid-level accountants (supervisors) is greater than that of both higher ranked managers/partners and lower ranked seniors (Ponemon 1988). Prior literature on IUP has also been limited to CPAs in public practice and has reported mixed results. For example, using data from a single accounting firm, Ponemon (1988) reports support for IUP. However, using data from multiple firms, Bernardi and Arnold (2004) do not find support for IUP in all but one firm in their sample. The third objective of this paper is to investigate IUP and moral reasoning of CPAs in industry practice. We also present data for CPAs in public practice.

Investigation of the relationship between SST and IUP and moral reasoning of accountants in industry practice is important because it provides possible explanations for the low moral reasoning found in repeated studies of accountants, particularly of high ranking CPAs in public practice. The earlier findings of SST and IUP (cf., Ponemon 1988, Ponemon and Gabhart 1993) are especially disturbing because they suggest that high ranked professionals, who are presumed to be generally older and more educated, have lower levels of moral reasoning than lower ranked professionals. This finding is inconsistent with the conclusion from the cognitive developmental theory of ethics that suggests a positive association between moral reasoning and both age and education (Kohlberg 1979, Rest 1979, Rest 1994). In particular, moral reasoning tends to increase at each higher level of education through college and then levels off and stays constant

after college (Rest 1979). This general finding suggests that moral reasoning of professional accountants should stay about the same between various professional ranks.

While the later, more extensive studies by Bernardi and Arnold (2004) and Scofield et al. (2004) show that the SST and IUP may not be widespread in public accounting, the fact remains that in comparison to other professionals, accountant score significantly lower on moral reasoning.³ Since moral reasoning is a major component of a model of ethical behavior (Rest 1986),⁴ Ponemon (1992b, 254) argues that due to deficiencies in moral reasoning, “those at the top [of public accounting firms] are ill equipped to deal with and resolve the multitude of ethical conflicts that abound in everyday practice.” Empirical results in the ethics literature support the notion that moral reasoning is positively and significantly associated with moral behavior (Rest et al. 1999, Thoma 1986). Consistent with this finding, evidence from auditing research indicates significant associations between risk assessment and moral reasoning (Ponemon and Gabhart 1993) and fraud detection and moral reasoning (Bernardi 1994).

The view that higher moral reasoning is needed for accountants is not universal. Some writers argue that, due to the rule-based nature of accounting, there may not be a need for moral reasoning at the highest levels, and that the general public may actually

³ For example, Scofield et al. (2004) report that partners in law firms have significantly higher P-scores than partners in accounting firms.

⁴ Other components are ethical sensitivity, ethical motivation, and ethical character (Rest et al. 1999). Moral sensitivity is a cognitive process to determine correct interpretation of ethical events, the imagining of the sequence of actions that are likely to follow such events, and having empathy with the others involved. Moral judgment is an individual’s moral reaction to the situation. That is, a moral judgment must be made regarding what is right and just. This cognitive process can be measured by the individual’s level of moral development (Kohlberg 1958; Rest 1979). Moral motivation is an individual’s commitment to accept personal responsibility for the expected consequences. Finally, moral character requires individual courage – the courage to act on one’s moral convictions. In the face of temptations, influence, and even coercion, the individual must have the persistence and determination to take the ethical act.

expect lower levels of moral reasoning by accountants (cf., Lampe and Finn 1992, Jeffrey and Weatherholt 1996, Louwers et al. 1997). While we certainly advocate that accountants must follow the rules promulgated in the accounting and auditing standards, we nevertheless believe that higher levels of moral reasoning are professionally desirable. Because it is impossible to promulgate rules that cover every potential ethical situation involving contentious client issues such as risk assessment and fraud detection, higher levels of moral development may be needed to strengthen accountants' decisions about what is right and just. This conclusion is as applicable to CPAs in industry practice as it is to CPAs in public practice. The numerous business scandals of the early 2000s indicate that all accountants must act ethically to protect the rights of investors and other stakeholders.

We use moral reasoning data from a sample of nearly 500 accountants for our investigation. With the exception of Bernardi & Arnold (1997) and Scofield et al. (2004) who also used large samples, other studies have used relatively small samples for their investigations. Our sample is selected from a cross section of accountants of varying ranks from public accounting firms, CPAs in industry practice, and graduating accounting students as proxies for accountants entering public and industry practice. Thus, the sample allows us to provide evidence on accountants in industry practice, which is a contribution over the focus of prior studies on public accounting. We are aware of only two other papers that studied the moral reasoning by rank of accountants in a non-public setting. In these studies, the moral reasoning of staff, middle and senior ranks of Certified Management Accountants (CMAs) in the US (Etherington & Hill

1998) and in Canada (Etherington & Schulting 1995) were compared. Neither study reported significant differences in moral reasoning by professional rank.

As in prior studies we use the Principled-score (P-score) of the Defining Issues Test (DIT) to measure moral reasoning. Developed by Rest (1979), the DIT has been used in numerous studies with high reliability scores. For example, Rest et al. (1999) reported that in over 20 years of study, the DIT has produced Cronbach alpha indexes in the .70s to .80s.

We find evidence that there are no significant differences by professional rank in the P-scores of CPAs in public practice. These results provide additional support for Bernardi and Arnold (2004) and Scofield et al.'s (2004) findings that challenge the existence of the SST and IUP in public accounting. However, we find a significant drop in the P-score between the entry level accountants and professional ranks. This evidence suggests that SST may be operating in accounting at the promotion to the rank of junior or senior. Since many professionals leave the profession after only a few years of practice, turnover is generally high at this professional rank.⁵ Consequently, we conclude that SST may be contributing to retaining and promoting individuals with lower levels of moral reasoning in public accounting. For accountants in industry practice we find a pattern that is similar to that of public accounting. We included a number of control variables suggested in the literature and found no significant effect for gender or ethical training on the P-score. However, we find significance for a political orientation variable, where self-proclaimed liberals score significantly higher on the P-score than moderates, who in turn score higher than conservative CPAs. Since we also find over 60 percent of

⁵ Industry estimates indicate that despite efforts by accounting firms to retain talent, well over 20 percent of those who join them, leave the firms in early years (cf., Smith, 2005, 9).

CPAs to classify themselves as conservatives, we believe this evidence may be a reason behind lower P-scores of accountants as compared to other professionals such as lawyers.

The remainder of the paper includes a review of the background literature leading to the study's research hypotheses. This is followed by a section on the research method employed. The next two sections provide the results as well as a summary and conclusions from the study.

BACKGROUND, RESEARCH QUESTION AND HYPOTHESES

Moral Reasoning

Introduction of the cognitive developmental theory of moral reasoning by Kohlberg (1958, 1984) resulted in an explosion of moral reasoning related studies. According to this theory moral development occurs in six stages in a step-by-step upward progression from lower stages of self-interest, to middle stages of law abidance and then to higher stages of adherence to universal principles of justice and human rights.⁶ The theory owes much of its acceptance to the development of the DIT instrument by Rest (1979). The DIT measures moral reasoning at the highest stages of principled reasoning. The full version of the DIT has six moral dilemmas; each of which has 12 statements (justifications) for a total of 72 questions.⁷ We use the full version of the DIT as a generic instrument to collect data on accountants' moral reasoning.⁸ It produces the

⁶ Detailed reviews of this theory (e.g., Rest 1994, and Rest et al. 1999) are available in the literature. We present only a brief summary.

⁷ The 72-question DIT is now shortened into an instrument called DIT-2 (Rest and Narvaez, 1998). We use the original long form DIT in our study because it has been used in numerous studies with high validity and reliability scores over a long period of time. While the new DIT-2 is shorter, has clearer instructions, purges fewer subjects for bogus data, and is slightly more powerful on validity criteria, the scores in DIT-1 and DIT-2 are actually highly correlated (Center for the Study of Ethical Development 2004).

⁸ Other generic instruments are Kohlberg's (1981) Moral Judgment Interview (MJI) and Reidenbach and Robin's (1990) Multidimensional Ethics Scale (MES). Due to a number of deficiencies (e.g., subjectivity and inefficiency), these scales have not become widely accepted in the literature. Recently,

Principled Score (P-Score), which represents an individual's preference for Kohlberg's high stages of principled moral reasoning.⁹

While the moral development literature suggests that improvements in moral reasoning are highly related to both age and education, Rest (1979, 143) notes that education has the greater effect. As previously noted, P-scores generally plateau after formal college education. Thus, one would expect that professionals like accountants reach a certain level of the P-score after graduation from college and remain at that level over time. Controlled for the level of education (graduate vs. undergraduate), this evidence would suggest that there is no significant difference in the P-score by professional ranks. If there are differences, then the explanation may be related to SST or IUP.

Accountants' P-scores

Numerous studies have investigated the P-scores of accounting students (Table 1) and practicing professionals (Table 2). These studies provide averages for the P-score over a long period of time. For example, the average P-score for accounting students from studies published in 1990-2002 is 37.51 (range: 31.04-43.42). The average for practicing accountants over the period of 1987-2003 is 38.94 (range: 32.60-44.16). In comparison to national averages reported by Rest (1994, 14), these averages indicate that accounting professionals and students score lower in moral reasoning than "Adults in General" with P-score of 40.00. While studies of some other professionals also indicate

researchers have introduced accounting-based (Thorne 2000) and auditing-based (Massey 2002) ethical reasoning instruments. Since the primary purpose of our study is to investigate the relationship between generic ethical reasoning and gender, we used the generic DIT in our study.

⁹ For a detailed review of the literature on the DIT see Rest et al. (1999).

lower than average moral reasoning,¹⁰ due to the importance of public trust in the accounting profession, the low average P-scores of accountants in public practice is of special concern. In particular, people often compare accountants to attorneys and expect them to have the same levels of moral reasoning and yet studies show that attorneys actually score higher in moral reasoning than accountants. For example, Scofield et al. (2004) find that average P-scores of partners in law firms (P-score = 45.37) is significantly (T-statistic = 3.15, $p < 0.002$) higher than that of partners in accounting firms (P-score = 39.09).

[Insert Tables 1&2 Here]

Selection-Socialization Theory

Concerned about accountants' relatively low P-scores, researchers have tried to find plausible explanations. In particular, the literature has focused on the selection-socialization theory (SST) as an explanation for the low P-scores of professionals in public practice. For example, noting that pharmacy students (P-score = 42.5) scored significantly higher in moral reasoning than community pharmacy practitioners (P-score = 36.4), Latif (2000) argued that selection-socialization may be a plausible explanation for the difference. In accounting, a number of studies that document the P-scores of professional accountants at various ranks (see Table 2) report low P-scores (in some cases, particularly at higher ranks) and attribute the low scores to selection-socialization in public accounting. For example, Ponemon's (1992b) average of 38.74 for members of the American Institute of Certified Public Accountants over a two-year period was lower than the 40.00 for "Adults in general" per Rest (1994, 14).

¹⁰ For example, in a study of community pharmacy practitioners, Latif (2000) finds an average P-score of only 36.4.

While SST is viewed as a plausible explanation for the low moral reasoning scores of accountants, researchers have recently questioned the generalizability of earlier findings that accounting firms retain and promote people with lower moral reasoning to higher ranks. For example, in a large scale study of random samples of CPAs over the period of 1995-1996 (n = 741) and 2000-2001 (n = 245), Scofield et al. (2004) investigated differences in the P-scores of accountants in public practice in various small and large firms. They did not find significant differences in the P-score between professional ranks.

The “Inverted-U” Phenomenon

A related issue of concern to academics has been an observation by Ponemon and his colleague of an “Inverted-U” phenomenon (IUP) in moral reasoning of CPAs in public practice. Ponemon (1988) first reported this finding in his dissertation and then proceeded to investigate it further with additional studies (Ponemon 1992b, Ponemon and Gabhart 1990, Ponemon and Gabhart 1993) that provided further support for the phenomenon. Table 3 presents the initial results from Ponemon (1988). As shown in the table, the P-score of seniors of 39.7 is significantly lower than that of managers (P-score = 45.5). However, the senior managers’ P-score of 37.3 indicates that managers with lower P-scores may have been promoted to the senior manager rank. The partners’ average P-score of 30.9 provides a further drop in moral reasoning as evidence of promotion of those with low P-scores to the rank of partner. From the low-high-low pattern of average P-scores in Table 3, Ponemon (1988) concluded that IUP exists in the moral reasoning of accountants in public practice. Overall, Ponomon (1988) found an

average P-score of 37.1, which also is lower than 40.0 for “Adults in general” per Rest (1994, 14).

[Insert Table 3 Here]

This conclusion was first challenged by Bernardi and Arnold (1997), whose results are also presented in Table 3. Specifically, using a large sample of 494 seniors, managers, and senior managers from five of the then Big-6 accounting firms, Bernardi and Arnold (1997) observed no significant mean score differences between the ranks with one exception where data from one of the firms investigated were consistent with those of Ponemon’s (1988) IUP results. Thus, Bernardi and Arnold (1997) did not find strong support for the IUP and the average P-score of 41.1 for their entire sample is slightly higher than “adults in general” per Rest (1994, 14).

In a more recent paper, Bernardi and Arnold (2004) further investigated the IUP. They traced the initial sample in Bernardi and Arnold (1997) over a 7 ½ year period for promotion and attrition and investigated the differences between the P-scores of those who were promoted to senior ranks in accounting firms and those who left public accounting altogether. Contrary to IUP, they find that CPAs with higher P-scores were retained and promoted to higher ranks by the then Big-6 accounting firms.

Research Question and Hypotheses

Based on their results, Scofield et al. (2004, 561) argued that Ponemon’s (1992b) study was not based on a random sample of AICPA members and in particular CPA practitioners from the Northeast (53.7 percent of the whole sample) were over-represented (Scofield et al. 2004, 547). They concluded that the capacity for moral judgment does not differ across ranks and therefore is not a factor in promotion in the

public accounting profession (or in the law firms they studied). Similarly, Bernardi and Arnold (2004) found no evidence of IUP in their longitudinal study of promotions in Big-6 accounting firms.

Two studies investigated moral reasoning by rank of Certified Management Accountants (CMAs). Similar to Scofield et al. (2004) results, Etherington and Hill (1998) and Etherington and Schulting (1995) found no significant difference between staff, middle and senior ranks. We extend this literature by investigating SST and IUP in moral reasoning of CPAs in industry practice. Our main research question is whether the moral reasoning of CPAs in industry practice differs by professional rank. Thus,

RQ1: Do the P-scores of CPAs in industry practice differ by professional rank?

Scofield et al. (2004, 543 and 562) speculate that differences in moral reasoning seem to be most relevant when people are making a choice of profession and less so after entering a particular profession. This conclusion suggests that self-selection occurs at the entry level into the accounting profession, but not through promotion decisions in public practice. If this is the case then one would expect differences in the P-score between entrants to the accounting profession and higher rank CPAs in public practice. This difference may indicate that selection-socialization occurs in early years of public practice when a large number of accountants at the assistant or staff levels have their employment voluntarily or involuntarily terminated. We provide initial evidence on this issue and based on an expectation of difference from Scofield et al. (2004) we establish the following hypotheses:

H_{1a}: The P-scores of students entering public practice are significantly higher than those of CPAs in public practice.

H_{1b}: The P-scores of students entering industry practice are significantly higher than those of CPAs in industry practice.

RESEARCH METHOD

General Model

P-score is the dependent variable in our study. As described above, the main independent variable we are investigating is professional rank. In addition, we include a number of demographic variables in our model. Gender is included as an independent variable because a review of the ethics literature (e.g., Thoma 1986) indicates an effect, albeit small, for women scoring higher in the P-score than men. Some accounting studies (e.g., St. Pierre, et al. 1990, Shaub 1994) show significant effects of gender on moral reasoning while other studies (e.g., Ponemon 1992b, Abdolmohamamdi et al. 2003) do not. Thus the gender results are mixed and we do not present any expected sign for the direction of this variable.

Age and education can also be included as control variables. The cognitive developmental theory of ethics suggests a positive association between moral reasoning and both age and education (Kohlberg 1979, Rest 1979, 1994). The literature also indicates that moral reasoning tends to increase at each higher level of education through college and then levels off and stays constant after college (Rest 1979). This finding indicates that education should be included as a control variable. However, as shown later, age is highly correlated with professional rank. Thus, we include education but not age as a control variable.

Other control variables included in our model are political orientation and ethical training. Political orientation, measured in our study as self-proclaimed orientation of

conservative, moderate, and liberal is expected to have a significant effect on moral reasoning (i.e., liberals are expected to score higher than moderates, who in turn are expected to score higher than conservatives). Emler, Renwick and Malone (1983) introduced the idea and a number of studies in accounting (e.g., Sweeney 1995, Etherington and Hill 1998, Thorne et al. 2003) have reported results that are consistent with this view. The latest study in accounting, Bailey et al. (2005, 41) find only a small effect for this variable in the P-scores of CPAs in public practice and call for research with “other populations of interest to accounting researchers such as CPAs in industry.” Thus we include political orientation as a control variable in our model of CPAs in industry as well as those in public practice.

The final control variable in our study is ethical training. There is a large body of research that advocates training as a means of improving one’s moral reasoning. Jones, Massey and Thorne (2003) review this literature and advocate inclusion of this variable in future research. While the cognitive developmental theory suggests that training should improve ethical reasoning, the finding in the literature that moral reasoning tends to increase at each higher level of education through college and then level off and stay constant after college (Rest 1979) would suggest that moral reasoning of professional accountants should not be significantly affected by their ethics training. Thus, we include ethical training as a control variable, but do not expect a significant effect for it.

Based on the foregoing discussion we specify the following linear model:

$$\begin{aligned}
 \text{P-Score} = & \alpha + \beta_1 \text{ Education} + \beta_2 \text{ Gender} + \beta_3 \text{ Rank} + \beta_4 \text{ Pol.Orien.} \\
 & + \beta_5 \text{ Eth.Training} + \varepsilon
 \end{aligned}
 \tag{1}$$

Where:

- P-score = Moral reasoning as measured by the DIT P-score
- Education = 1 if undergraduate, 2 if graduate
- Gender = 1 if female, 2 if male

Rank	= Professional Rank (1= entry level, 2 = senior, 3=manager, 4=partner)
Pol.Orient.	= Political orientation (1 = conservative, 2 = moderate, 3 = liberal)
Eth.Training	= Ethical training (1 = ethics training as college course, hours of training on the job, 2 = no ethics training)
ε	= Error term

We test Model (1) for both accountants in public practice and accountants in industry practice.

Samples

The first sample used in this study is from 168 graduate and undergraduate accounting students in their last year of study at a college in the Northeastern United States. This sample is used as a proxy for entrants to the accounting profession. As Table 4 shows, we had data indicating that 41 of these students had accepted jobs in public accounting. For the remaining students we had no data concerning their initial employment, thus we do not know where they began their professional work. Based on a comparison of the P-scores of the 41 students entering public accounting (mean P-score = 38.34) and all other students in the sample (mean P-score = 37.71) we concluded that there is no significant difference between the two groups (T-statistic = 0.363, $p = 0.717$). Therefore, we use the P-scores of all students as entrants to the accounting profession regardless of public or industry practice. Table 4 also provides information on the age, gender and education (graduate/undergraduate) of these students. We did not collect data on political orientation or ethical training from the sample of students.

[Insert Table 4 Here]

The second sample in our study ($n = 314$) is from practicing CPAs. As such this sample includes only 11 individuals at the assistant/staff level. We received a relatively

high response rate because a state society of CPAs in the Southeastern United States approved participation in this study for one hour of continuing professional education (CPE). Specifically, 582 packets were distributed to CPAs who participated in ethics-related courses sponsored by the society and to CPA participants in society seminars that included a section on an ethics-related subject as well as to those who responded to either an advertisement placed in the society's newsletter or to an E-broadcast sent to society members. We received 314 completed packets for a response rate of 54 percent.

The research packet included an introductory letter, the long-form DIT instrument, a CPE credit form, a letter from the state society that explained the CPE credit requirements, a demographic questionnaire, and a prepaid business reply envelope. The research letter assured participants that the survey results would only be reported in composite form and that their identities would remain confidential.

The total number of graduating students and CPAs in this study was 482. Thus, similar to Bernardi and Arnold (1997, $n = 494$) and Scofield et al. (2004, $n = 986$), we have a large sample size for our investigation. Table 4 provides the age, gender, education, political orientation, and ethics training of these subjects along with their P-scores. As expected the vast majority of the subjects majored in accounting in their undergraduate programs (299) or graduate programs (183).

The political orientation data indicate that while overall less than 10 percent of CPAs (25 of 284 who answered the question) in our sample classify themselves as liberals, a majority (60 percent) view themselves as conservatives, and about a third (35 percent) as moderates. Finally, as Table 4 shows, of the 308 CPAs who answered ethics training questions, 241 (78 percent) reported to have had ethics training defined as

courses in college or training on the job. The remaining 22 percent reported to have had no courses on ethics in college, or hours of training on ethics on the job.

RESULTS

Univariate Analysis

The DIT responses were scored by the Center for the Study of Ethical Development (Center) at the University of Minnesota. As reported in the bottom of Table 4, there was high variation among the groups ranging from a mean of 33.05 for CPAs in public practice to the high mean of 41.83 for CPAs in government. These P-scores were significantly different (F-statistic = 3.17, $p = 0.005$). More specific univariate analyses are provided in Tables 5, 6 and 7.

P-score by Rank in Public Accounting (RQ1). Table 5 presents the mean P-score by rank for CPAs in public practice. The results indicate no difference by professional rank. This evidence suggests no selection-socialization in promotion to higher ranks in public accounting. The results also provide no evidence of the “Inverted-U” phenomenon in public accounting ranks. Table 6 presents the P-score by rank for CPAs in industry practice. These results also show no difference by professional rank, and thus neither evidence of selection-socialization in industry practice nor evidence of the “Inverted-U” phenomenon.

[Insert Tables 5&6 Here]

Differences between Entry Level and Professional Ranks (H_{1a} and H_{1b}). Table 7 presents the results for tests of differences between entry level and practicing ranks. Panel A shows significant differences for public accounting and Panel B for industry practice.

Thus, we find evidence in support of H_{1a} and H_{1b}. This evidence is consistent with Scofield et al.'s (2004) speculation that selection may occur at entry into the accounting profession. It shows a selection-socialization where entry level accountants of lower moral reasoning may be promoted to early professional ranks (e.g., senior) while leaving entry level professionals with higher P-scores to turn over.

[Insert Table 7 Here]

Multivariate Analysis

The multivariate Model 1 is tested using the ordinary least square regression. To check for the possibility of multicollinearity between independent variables, we first present a correlation matrix in Table 8. As expected, we find very high correlation between age and professional rank (Pearson Correlation Coefficient= 0.87, $p < 0.01$). Thus we do not include age in the regression model. None of the other correlations reach 0.5 to cause concern for the possibility of multicollinearity.

[Insert Table 8 Here]

We test Model 1 for CPAs in public and industry practices. The results are reported in Table 9. Consistent with the univariate results we find no significance for professional rank, indicating that the P-scores of professionals of varying rank are not significantly different, thus there is no evidence of selection-socialization in either model. Gender and ethical training also do not indicate significance in either of the models. Furthermore, education is not significant in the CPAs in public practice model, but is marginally significant ($p = 0.087$) in the CPAs in industry practice. The opposite is observed for the effect of political orientation, which is highly significant in the CPAs in public practice ($p = 0.000$), but not in the CPAs in industry practice ($p = 0.116$). While

the model R-squares are modest (15.7 percent and 8.6 percent respectively), the model F-statistics are highly (marginally) significant for the CPAs in public (industry) practice.

[Insert Table 9 Here]

To investigate the details of the P-score differences by political orientation, we performed an analysis of variance for CPAs in public practice, CPAs in industry practice, and for all CPAs in our sample. As reported in Table 10, the F-statistics and their significance levels show significant differences by political orientation. The Bonferroni pair-wise contrasts also show significance. Specifically, for all CPAs, conservatives have significantly lower P-scores (mean = 31.31) than moderates (mean = 35.35), who in turn score significantly lower than liberals (mean = 42.76). The results for CPAs in public practice are the same. However, in the case of CPAs in industry, moderates (mean P-score = 33.16) and conservatives (mean P-score = 33.88) are not significantly different, but they both are significantly lower in their moral reasoning than liberals (mean P-score = 45.83).

Additional Analysis

The results of the study regarding difference between the P-scores of entry-level accountants being higher than those of practicing accountants are consistent across all univariate and multivariate analyses. However, the findings of control variables in Model 1 indicate some curious observations, so we further analyze the data to investigate the effect of gender and education on moral reasoning of our sub-samples. Regarding gender, we find for the student sub-sample no significant gender effect where the mean female P-score of 37.92 is not significantly different from that of males (P-score = 37.96). The same result is obtained when we compare females (P-score = 34.71) to males (P-score =

32.03) in public accounting. However, for CPAs in industry we find a marginally significant result where the P-score of females (36.29) is higher than that of males (32.03) and the difference is significant at the 0.075 level (T-statistic = 1.80). These results add to the mixed evidence in the literature regarding the moral reasoning of men and women.

The education variable is marginally significant in the industry practice model, but not in the public practice model. Overall, we find a significant difference in the P-score of those with graduate degrees (P-score = 36.83) and those with undergraduate degree (P-score = 33.88) where the difference is highly significant at the 0.01 level (T-statistic = 2.54). However, while the mix of graduate and undergraduate degrees in public practice, industry practice, and entry level are not significantly different (Chi-square = 2.97, $p = 0.23$), we find a significantly higher P-score for those with graduate degrees in industry practice (T-statistic = 2.15, $p = 0.03$) and entry level (T-statistic = 1.72, $p = 0.09$), but not in public practice (T-statistic = 0.78, $p = 0.44$). While the evidence from industry and entry level accountants is consistent with the expectation of the extant literature, the insignificant result of education level in public practice is not.

SUMMARY AND CONCLUSIONS

In this study we use a large sample of CPAs and graduating accounting students (as proxies for entry level accountants) to investigate the selection-socialization theory and the “Inverted-U” phenomenon in moral reasoning of accountants in industry practice. We also provide additional data for accountants in public practice, where prior studies have reported mixed results. Using the Defining Issues Test (DIT) to measure moral reasoning, we find no evidence of selection-socialization in promotions to higher ranks of

public or industry practice. However, we find evidence of selection-socialization at the entry level, where the P-score of entry level accountants is significantly greater than those of junior and higher ranks in public and industry practice, suggesting that many accountants with higher moral reasoning may voluntarily or involuntarily turnover in the early years of practice.

We find CPAs in government to have the highest P-scores (41.83) of all sub-samples. This sub-sample, however, is too small ($n = 10$) to make strong generalizations. Future studies may want to investigate this difference further. For example, do accountants with higher levels of moral reasoning leave public practice in favor of government practice? An avenue for research might be to begin with graduating students and then trace them to their first and subsequent employment and thereafter, over several time intervals (possibly 1, 2 and 5 years). Is it possible that accountants with higher levels of moral reasoning choose what they may perceive as more socially attuned or idealistic employment such as government or nonprofit?

While we find no significant gender effects in the multivariate model, univariate analyses indicated a marginally significant higher P-score for females in industry than males in industry. Our results add to the state of mixed evidence on gender effects in moral reasoning of accountants. Future research may be needed to investigate the conditions under which gender is and is not a significant factor in moral reasoning.

Investigation of the education variable indicated that education is not significant in the public practice model, but marginally significant in the CPAs in industry model. This finding is somewhat inconsistent with the literature that posits that education has positive effects on moral reasoning. However, the literature posits that the P-score

plateaus upon college education. We find evidence in support of this finding in that there is no significant difference by rank for CPAs in public or industry practice, and that prior courses on ethics or hours of ethics training does not make a significant difference.

So, what does explain the results in our study and others that the average P-score of accountants is lower than other professionals? The literature suggests that political orientation has an impact on moral reasoning (c.f., Sweeney 1995, Etherington and Hill 1998, Thorne et al. 2003), where conservatives generally score lower on the P-score than moderates and liberals. To the extent that public accountants increasingly become politically conservative (Truett 1993), one could expect they also score lower on the P-score. While Scofield et al. (2004) find some evidence in support of this relationship, they deemed its effect size to be small. Our results indicate a significant effect for political orientation for CPAs in public practice, and to a lesser extent, for those in industry practice. Overall, we find conservatives to have an average P-score of only 31.31, which is significantly lower than moderates (35.35) and liberals (42.76), where the differences are highly significant. We also find 60 percent of CPAs in our sample classify themselves as conservative, 35 percent as moderates, and only five percent as liberals. This evidence suggests that the attribute that explains low P-scores in the accounting profession may be the conservative nature of those who practice it.

An interesting finding related to political orientation is that the P-score of liberal CPAs in industry (mean P-score = 45.83) is higher than that of liberals in public practice (mean P-score = 40.76). However, since the sample sizes are small ($n = 10$ and 12 , respectively), we can not draw strong conclusions about this finding. However, this preliminary finding indicates a need for future research to further investigate this finding.

Another sample limitation in our study is that we have drawn convenience samples from two geographical areas: Northeastern and Southeastern United States. This limitation indicates caution in generalizing our results to broader geographical areas. Thus there is a need for replication studies with samples drawn from other geographical areas to afford generalization of the results to other CPAs in the US or other countries. Nevertheless, we would like to emphasize the fact that the present study is the first to investigate both the selection-socialization theory and the “Inverted-U” phenomenon by using entry-level accountants in comparison to CPAs in public and industry practice. While we find no evidence of selection-socialization theory and the “Inverted-U” phenomenon for CPAs in various ranks in public or industry practice, we find a significant selection-socialization effect at entry to the first professional rank where turnover is a major problem in accounting firms (Smith 2005).

The size of the CPA firms from which our CPAs in public practice was drawn is mostly on the smaller size. This is because the CPAs who attend state society continuing professional education (CPE) meetings do not tend to be from the larger firms that often have in-house CPE programs. Specifically, of the 154 CPA in public practice, 82.47 percent were employed in firms with 10 or fewer CPAs. It is possible that selection-socialization takes place differently for smaller firms in that the ranks in small CPA firms may be somewhat less distinct than they are in larger national/international firms. Nevertheless, we find results that are consistent with Bernardi and Arnold (2004) and Scofield et al. (2004) with respect to a lack of significance of rank for moral reasoning of CPAs in public practice. Thus, the smaller size of the firms in our sample actually

provides evidence not previously reported in the literature with respect to selection-socialization and the “Inverted-U” phenomenon.

On the other hand the CPAs in industry practice probably were drawn from a variety of organization sizes. The CPE programs at the state society seminars where we collected data were primarily targeted at CPAs in industry. Thus, we were able to collect data from a relatively large sample of CPAs in industry that has only scantily been studied in the past. We are aware of only two studies (Etherington & Hill 1998 and Etherington & Schulting 1995) that have provided preliminary data on Certified Management Accountants in the US and Canada indicating no differences by rank of the P-score. Our results from CPAs in industry practice are consistent with theirs, indicating no evidence of rank effects on the P-scores.

Finally, the proxy entry level results of our study deserve further attention in the literature in the sense that prior studies have focused on professional rank of CPAs in public practice. While Scofield et al. (2004) speculated that selection-socialization may take place at the entry to the profession; we provide empirical evidence that this may indeed be the case. Specifically, we find that the P-score of accountants entering public and industry practice is higher than that of practicing CPAs of varying ranks. The evidence thus indicates that selection-socialization may take place in early rank retention/promotion decisions rather than at the higher ranks investigated in prior studies. Future longitudinal studies may be needed to investigate this finding further. Specifically, longitudinal studies of entry level accountants may provide insights about the exact nature of accountants who stay in public and industry practice and those who leave public and/or industry practice to work elsewhere.

Our finding of a majority of CPAs in our sample to be political conservatives who score significantly lower on the P-score than moderates and liberals, also suggests further interdisciplinary research. For example, Scofield et al. (2004) find that partners in law firms score higher on the P-score than partners in accounting firms. Comparative studies between accountants and lawyers may provide evidence of comparative conservatism that might shed light on the reasons for the P-scores noted by Scofield et al. (2004).

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Table 1
Mean DIT P-Scores from Selected Studies
Of Accounting Students

AUTHOR(S)	SAMPLE	GROUP STUDIED	P SCORE
ST. PIERRE, ET AL. (1990)	69	ACCOUNTING STUDENTS	43.42
PONEMON & GLAZER (1990)	54	SENIOR ACCOUNTING MAJORS	40.84
LAMPE & FINN (1992)	112	SENIOR CLASS AUDITING STUDENTS	34.49
JEFFREY (1993)	76	SENIOR ACCOUNTING STUDENTS	42.80
SHAUB (1994)	91	AUDITING STUDENTS	41.32
EYNON, ET AL. (1996)	146	U.S. & IRISH ACCOUNTING STUDENTS	31.04
KITE & RADTKE (1997)	31	COST ACCOUNTING STUDENTS	36.94
FISHER & SWEENEY (1998)	112	UNDERGRADUATE ACCOUNTING MAJORS	38.16
BERNARDI, ET AL. (2002)	150	INTERMEDIATE ACCOUNTING STUDENTS	36.80
TOTAL	841		
RANGE			31.04-43.42
WEIGHTED AVERAGE			37.51

Table 2
Mean DIT P-Scores from Selected Studies
Of Accounting Practitioners

AUTHOR(S)	SAMPLE	GROUP STUDIED	P SCORE
ARMSTRONG (1987)	174	PRACTICING CPAS	38.06 ^a
PONEMON & GABHART (1990)	119	NATIONAL FIRM MANAGERS & PARTNERS	32.60
PONEMON & GLAZER (1990)	43	ACCOUNTING ALUMNI	43.58
ARNOLD & PONEMON (1991)	106	INTERNAL AUDITORS	38.53
PONEMON (1992A)	88	STAFF LEVEL AUDITORS	38.74
PONEMON (1992B)	180	AICPA MEMBERS	38.06
LAMPE & FINN (1992)	207	STAFF & MANAGER LEVEL AUDITORS	40.95
PONEMON (1993)	61	INTERNATIONAL FIRM AUDIT MANAGERS	36.21
SHAUB (1994)	207	BIG SIX FIRM AUDITORS	41.29
ETHERINGTON & SCHULTING (1995)	76	CANADIAN CMAS	43.50
SWEENEY (1995)	314	REGIONAL & NATIONAL FIRM AUDITORS	42.80
ETHERINGTON & HILL (1998)	468	CMAS IN INDUSTRY	39.30
HILL, ET AL. (1998)	241	U.S. AND IRISH SMALL FIRM PRACTITIONERS	35.78 ^a
MASSEY (2002)	71	ENTRY LEVEL (PROXY) AND EXPERIENCED AUDITORS	33.30
ABDOLMOHAMMADI, ET AL. (2003)	90	INTERNATIONAL FIRM STAFF LEVEL ACCOUNTANTS	44.16
THORNE, ET AL. (2003)	363	U.S. CPAS AND CANADIAN CAS	38.30
WARMING-RASMUSSEN & WINDSOR (2003)	174	AUDIT FIRM MANAGERS IN DENMARK	35.48
TOTAL	2,982		
RANGE			32.60-44.16
WEIGHTED AVERAGE			38.94

^a = weighted average of means

Table 3
DIT P-Scores of Accountants in Public Practice
By Their Professional Rank

Study:		Professional Rank				
		Seniors	Managers	Senior Managers	Partners	Total
Ponemon (1988)	P-score (N)	39.7 (16)	45.5 (17)	37.3 (12)	30.9 (30)	37.1 (75)
Bernardi & Arnold (1997)	P-score (N)	41.1 (342)	41.7 (90)	40.1 (62)	N/A	41.1 (494)

Table 4
Descriptive Statistics

Variable		Education	Government	Industry	Other	Public	Student (Other)	Student (Public)	Total	
Age	Under 24	0	0	0	0	4	98	36	138	
	24-29	0	0	5	1	7	14	2	29	
	30-34	0	0	13	1	13	4	3	34	
	35-39	0	1	17	2	8	7	0	35	
	40-44	3	0	16	2	20	1	0	42	
	45-49	0	5	27	1	25	2	0	60	
	50-54	2	3	23	3	25	0	0	56	
	55-59	3	0	5	4	26	0	0	38	
	60&Over	1	1	8	8	31	1	0	50	
	Total		9	10	114	22	159	127	41	482*
Gender	Female	2	5	49	11	60	63	21	211	
	Male	7	5	65	11	99	62	18	267	
Total		9	10	114	22	159	125	39	478*	
Ed.	Undergrad	0	7	74	13	107	77	21	299	
	Grad	9	3	40	9	52	50	20	183	
Total		9	10	114	22	159	127	41	482	
POL.- Oient.	Liberal	1	1	9	0	14	N/A	N/A	25	
	Moderate	1	4	46	6	43	N/A	N/A	100	
	Conservative	3	5	49	14	88	N/A	N/A	159	
Total		5	10	104	20	145	N/A	N/A	284	
Ethics Training	No	0	6	17	8	36	N/A	N/A	67	
	Yes	9	4	93	14	121	N/A	N/A	241	
Total		9	10	110	22	157	N/A	N/A	308	
P-Score	Mean	33.33	41.83	33.34	34.13	33.05	37.71	38.34	35.02	
	Std Dev.	11.64	11.95	11.69	10.94	11.90	12.29	12.69	12.14	
F-Stat (Significance)		3.17 (0.005)								

* Difference due to missing data.

Table 5
DIT P-Scores by Rank in Public Accounting

Public Rank, no Entry Level	Mean	N	Std. Deviation		
Junior	33.6364	11	10.97624		
Senior	34.6670	20	15.54587		
Manager	33.1670	10	13.17930		
Partner/owner	32.6854	112	11.32581		
Total	33.0442	153	11.93991		
ANOVA	Sum of Squares	df	Mean Square	F-statistic	Sig.
Between Groups	71.100	3	23.700	.163	.921
Within Groups	21598.237	149	144.955		
Total	21669.337	152			

Table 6
DIT P-Scores by Rank in Industry

Industry Rank	Mean	N	Std. Deviation		
Junior/senior	37.6593	14	13.63475		
Manger	35.0000	37	10.80153		
CFO/controller	32.8106	70	12.05913		
Total	34.0411	121	11.89344		
ANOVA	Sum of Squares	df	Mean Square	F-statistic	Sig.
Between Groups	323.293	2	161.646	1.146	.322
Within Groups	16651.173	118	141.112		
Total	16974.466	120			

Table 7
DIT P-Scores between Entry Level and Professional Ranks

Panel A: Public Accounting

Public Rank	N	Mean	Std. Deviation	T-statistic (Significance)
Entry Level	160	37.8647	12.35141	3.457 (0.001)
All ranks	142	32.9984	12.04613	

Panel B: Industry Accounting

Industry Rank	N	Mean	Std. Deviation	T-statistic (Significance)
Entry level	160	37.8647	12.35141	2.431 (0.016)
All ranks	118	34.2710	11.94938	

Table 8
Correlation Matrix

	Age	Gender	Professional Rank	Political Orientation	Ethics Training
Age	1.00				
Gender	0.23**	1.00			
Professional Rank	0.87**	0.24**	1.00		
Political Orientation	-0.04	0.17**	-0.01	1.00	
Ethics Training	-0.12*	-0.01	-0.05	-0.05	1.00

* Significant at the 0.05 level

** Significant at the 0.01 level

Table 9
Multivariate Analysis
DIT P-Score as Dependent variable

Model	CPAs in Public Practice			CPAs in Industry Practice		
	Beta	T-stat	Sig.	Beta	T-stat	Sig.
Constant		7.304	0.000		4.971	0.000
Gender	-0.056	-0.625	0.533	-0.077	-0.792	0.430
Education (Grad/undergrad)	0.074	0.926	0.356	0.161	1.727	0.087
Ethical Training	0.023	0.290	0.773	0.057	0.607	0.545
Professional Rank	-0.032	-0.357	0.721	-0.103	-1.058	0.292
Political Orientation	-0.369	-4.626	0.000	-0.150	-1.585	0.116
F-Statistic	5.142			1.983		
Significance	0.000			0.087		
Chi-Square	15.7%			8.6%		

Table 10
P-Score by Political Orientation

	CPAs in Public			CPAs in Industry			All CPAs		
		P-Score			P-Score			P-Score	
Variable	N	Mean*	Std. Dev.	N	Mean**	Std. Dev.	N	Mean*	Std. Dev.
Liberal	12	40.76	13.20	10	45.83	8.40	25	42.76	11.22
Moderate	39	38.63	11.87	48	33.16	13.00	100	35.35	12.53
Conservative	83	29.46	10.87	53	33.88	10.61	159	31.31	10.70
F-Stat.	21.23			3.76			23.74		
Significance	0.000			0.05			0.000		
Total	134	33.14	12.25	111	34.65	11.99	284	33.74	11.87

* Bonferroni Contrasts show significance between all possible pairs of the three means

** Bonferroni Contrasts show significance between liberal-moderate and liberal-conservative, but not moderate-conservative